American Bald Eagle
Tailored Tackle

Florida WILDLIFE

Fishing · Hunting · Conservation · Outdoor Recreation

JULY 1969

The Florida Magazine for all Sportsmen

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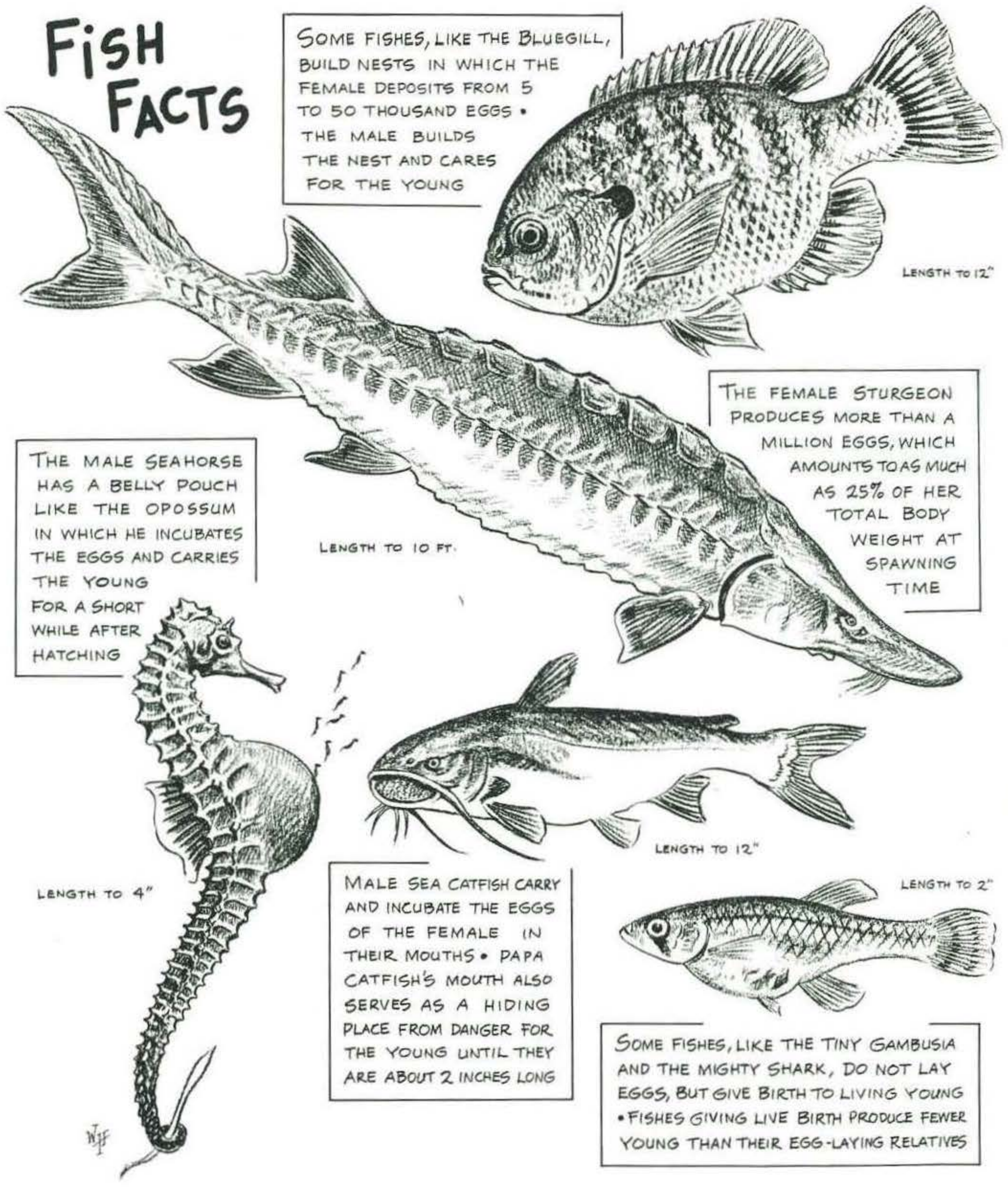
Florida Wildlife Scrapbook

FISH FACTS



SOME FISHES, LIKE THE BLUEGILL, BUILD NESTS IN WHICH THE FEMALE DEPOSITS FROM 5 TO 50 THOUSAND EGGS • THE MALE BUILDS THE NEST AND CARES FOR THE YOUNG

THE FEMALE STURGEON PRODUCES MORE THAN A MILLION EGGS, WHICH AMOUNTS TO AS MUCH AS 25% OF HER TOTAL BODY WEIGHT AT SPAWNING TIME

THE MALE SEAHORSE HAS A BELLY POUCH LIKE THE OPOSSUM IN WHICH HE INCUBATES THE EGGS AND CARRIES THE YOUNG FOR A SHORT WHILE AFTER HATCHING

MALE SEA CATFISH CARRY AND INCUBATE THE EGGS OF THE FEMALE IN THEIR MOUTHS • PAPA CATFISH'S MOUTH ALSO SERVES AS A HIDING PLACE FROM DANGER FOR THE YOUNG UNTIL THEY ARE ABOUT 2 INCHES LONG

SOME FISHES, LIKE THE TINY GAMBUSIA AND THE MIGHTY SHARK, DO NOT LAY EGGS, BUT GIVE BIRTH TO LIVING YOUNG • FISHES GIVING LIVE BIRTH PRODUCE FEWER YOUNG THAN THEIR EGG-LAYING RELATIVES

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The Cover

There can be no turning back the calendar once our national symbol, the wonderful Bald Eagle is gone. Extinction can still be prevented if lawmakers, scientists and citizens will "get together" in time. See page 12.

From A Painting By Wallace Hughes

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On her nest in a pine tree, above, mother dove patiently incubates her eggs while the father dove, left, coos encouragement—and keeps a sharp watch—from nearby perch.

Photo Story

By MARY ELLEN SMITH

the Mourning Dove — at home

THE SUMMER-LONG cry of the mourning dove must be "Woo-OO-oo," not "Coo-oo-oo" as the bird books say. The prolific dove may not be a fighter but he is a lover. Also, he is adaptable to city life as well as to the wide-open country.

The pair of doves shown here met in a Miami backyard, at a bird bath. They built a nest in a tall long leaf pine, a rickety structure on a limb about 20 feet from the ground. There, in a wicker work of shining green pine needles, the female sat patiently. Her mate was never far away. Usually he perched on a nearby limb, looking the perfect symbol of peace, his back feathers satiny brown with flecks of black, his breast cream color shading into pale orange, his feet rose-pink.

On the day the babies pecked an exit from the eggs, the male bird streaked to the nest and removed the shells. Three days later two small heads poked above the side of the nest. They nuzzled against the mother, and she fed them from her own throat, an instant pre-digested food.

The fledglings grew fast. In a week they were stretching their wings. Two weeks, and they were sidling along the limb. Then, awkwardly, they flew. For two days they kept coming back to warm themselves, sometimes against the mother. Then, they were gone.

Happily, the female dove went back to her mate—and the cycle of courtship began again. ●

Father dove stands guard, above, while two-weeks old youngsters, below, leave nest and exercise their wings in flight preparation.

A baby dove pokes its head from under mother's protective body.

Game Management Notes

STATE GAME agencies conduct managed deer hunts on 15 million acres of public and private lands in 12 southeastern states, according to a paper presented earlier this year by Assistant Chief of Game Management Division Gordon Spratt at a Symposium, held at Nacogdoches, Texas, on "The White-tailed Deer in Southern Forest Habitat."

Managed, or "controlled," deer hunts are held on approximately 10 million acres of private lands and 5 million acres of public lands in Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Missouri, Mississippi, North Carolina, South Carolina, Tennessee and Texas.

Spratt points out that during the past 18 years there have been "few significant changes in the amount of public lands available for this use. As an example, there were 4.2 million acres of public land open to hunting in 11 southeastern states in 1951 . . . as compared to the current estimate of 5 million acres in 12 states."

"The *number* of supervised hunting areas on public lands has increased," says Spratt, noting that there are now over 60 separate hunt areas in just seven states, whereas in 1951 there were only 50 in 11 states. The total number of separate hunt areas currently operated by the 12 states on public lands was not available.

"The primary purpose of managed hunt programs is to provide hunting opportunity consistent with commercial and other recreational land uses. Hunter control, supervision, distribution, and deer management are secondary objectives . . . Hunting opportunity is being insured and higher levels of sustained use are realized on areas where managed hunt programs are implemented," Spratt says.

Hunter controls vary in the 12 states surveyed but often include special permits, restrictions on numbers of hunters allowed, bag limits or harvests, methods of taking wildlife, camping and the use of campfires, use of intoxicants, vehicle types, days and hours of hunting, arms and ammunition, etc. In addition, hunters are often restricted to specified zones within open hunt areas and are frequently required to check in and out and report their kills.

Even so, the concept of controlled hunting "is not as distasteful to the hunting public as some resource administrators may believe," says Spratt, reporting that despite the greater regimentation, sportsmen have generally accepted the controls imposed and usually abide by the rules if they understand the reasons behind them.

Some hunters prefer supervised hunts to hunting on "open" lands, Spratt notes, while also reporting that in a few states public acceptance or rejection is of little consequence since managed hunt areas provide the *only* hunting opportunity available. (Ten states of the 12 queried in the study expressed "unqualified public acceptance" of managed hunt programs. Two expressed "mixed public feelings").

Hunter success undoubtedly accounts, in some part, for the broad public acceptance of managed hunting. Nine states indicated that hunter success is greater on their managed hunt areas than on uncontrolled lands. Three felt that the same level of success is realized on both types of hunting lands.

Since few state game agencies own an appreciable amount of public hunting lands, private landowners' cooperation is necessary if managed hunting is to be available in the future on the scale needed. Cooperative agreements and leases between state game agencies and public, private, and industrial landowners are the foundation of many recreational programs.

Although occasionally a few landowners become disenchanted with managed hunt programs, they are generally satisfied and all are benefitted, according to the 12 states responding to Spratt's questionnaire.

Their benefits are commonly in the form of services that are equivalent to financial support: fire protection, posting, fence repair, controlled burning, technical assistance concerning general land management practices, and assistance in maintaining capital improvements. Routine patrol by agency personnel also provides a degree of control over fence cutting, vandalism, rustling, littering, trespass, and theft. State administration and enforcement of hunting arrangements are normally welcomed by large landowners, most of whom are glad to be relieved of these responsibilities as well as those involving wildlife management.

Relief from liability is a major benefit and a prime incentive to landowners in leasing land for managed hunting. Florida and North Carolina were the first to adopt legislation of this kind, in 1963.

In his conclusion, Spratt says, ". . . The problem of providing participating private owners with additional financial return is critical. Private leasing is steadily removing managed hunt areas from cooperative management programs. Public support is necessary and it can be justified. Public benefits, including associated outdoor recreation opportunities, are products of managed hunt programs that could be supported by a larger segment of the public. To date, the hunter has shouldered the majority of the financial burden. . . ." ●

Shiny Mylar

used for different styles of decoration, Mylar is available in strands, sheets and tubes—ideal for "dressing up" types of fishing lures

By **CHARLES WATERMAN**

IT IS NOT completely revolutionary, it is not the end of every fisherman's quest and it will not upset the balance of nature overwhelmingly in favor of the fisherman, but Mylar is pretty good stuff for enhancing the attraction of fishing lures.

As you see, I have approached the subject negatively. This is a growing habit of mine in the face of the glowing terms in which most fishing gear is described. For once, good old FLORIDA WILDLIFE gets the main course second hand because the editor of another magazine suggested Mylar to me as the subject of an article, and most of the elementary things I learned about it were found in researching the other article. But that was months ago and there are some new developments.

Mylar is shiny stuff, used for all sorts of decorative purposes, and bought in sheets, tubes (piping) and strands. It is used in construction of all sorts of emblems and in decoration. It doesn't tarnish like ordinary tinsel, is much more durable and can be had in numerous colors. After fooling with several colors, I am using nothing but silver and gold Mylar. They may not be any better than the other colors but, for me, they have been just as good. I am convinced that the appeal is in the glitter rather than in the color, but I am a crude fellow and some fish may be partial to special tints.

I first wrote about Mylar in FLORIDA WILDLIFE when Chow Time skirts were introduced a long while back. Chow Time skirts came with an adhesive and could be attached to plugs or other lures. The skirt strands were about the width of the plastic strands found on many bass lures. Since then, the name of those skirts has been changed and, for the life of me, I cannot find the new name in my notes but they are the only such skirts made as far as I know. They add a lot of flash.

You can attach those flashers to a jig body *backward* and produce an excellent salt water lure where the fish are feeding on squid. Some very good salt water lures have been made with bodies of sheet Mylar although you probably will not find the word *Mylar* in a description of them.

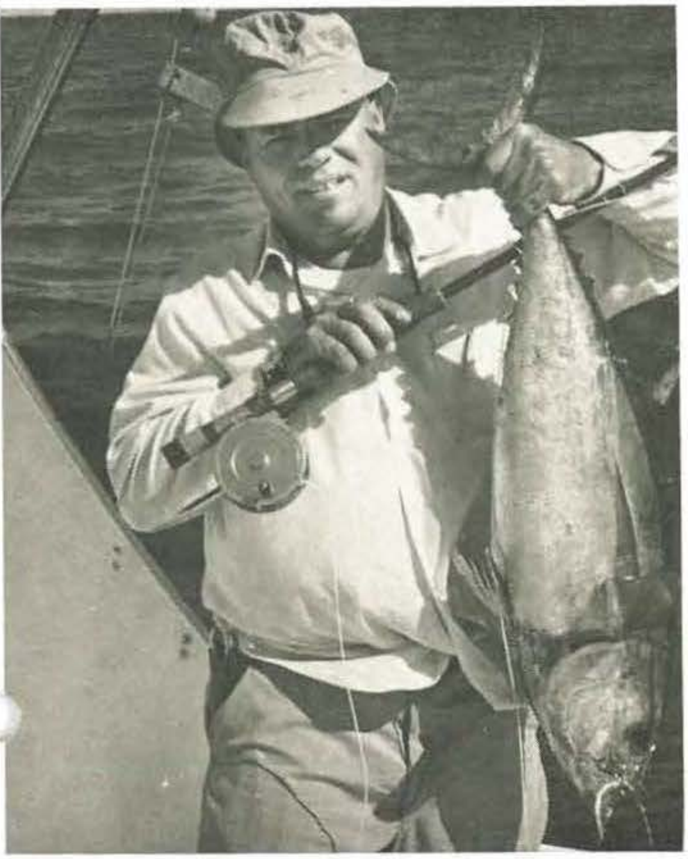
We have used pieces of Mylar cut into all sorts of shapes for flies and jigs but for light tackle fishing with spinning outfits and fly rods we have had the greatest success with strands of the material tied in with bucktail, nylon or feathers. In small strands, it is very tough.

You can buy spools of Mylar in width as small as $\frac{1}{32}$-inch in hobby or sewing shops, but the best results are with $\frac{1}{64}$-inch Mylar as the wider material flutters in the cast, bad enough with a spinning outfit and a real hold-backer with a fly. But, and it's a big *but*, you can't buy $\frac{1}{64}$-inch Mylar unless you pop for enough of it to last a thousand fishermen for long lifetimes and it's a big investment.

Lefty Kreh, manager of the Miami Met fishing tournament, was one of the earlier Mylar impressarios and now has a streamer being produced under his name by the Phillips Fly and Tackle Co., Alexandria, Pa. It employs strands of $\frac{1}{64}$-inch Mylar mixed in with hair and is an excellent job.

For some time there have been flies made with

(Continued on next page)



Lefty Kreh, manager of a Miami fishing tournament and one of the boosters of Mylar as a fish attractor, with a fly-rod world record 21½-pound blackfin tuna. He caught it on a Mylar fly lure called "Lefty's Deceiver," off Key West.

(Continued from preceding page)

the Mylar piping as bodies. The piping comes with a cotton core, available from many sources, and you simply pull out the core and worm a little piece of the tubing to the hook shank, tying it at the ends. It is an attractive body although, in my experience, it does not last long on fish with abrasive mouths.

Not so with the fine strands used as part of the hair or feather dressing. They have taken the ripping of barracuda, Florida chain pickerel and northern pike and stayed put after the hair has been torn off the hook. Funny, but it's true.

The latest test I saw run with Mylar was on small crappie jigs, and the lures with Mylar caught more than twice as many fish as the ones without it.

Now there is a way to get the fine strands without buying a truckload. You will find that the tubing is made up of these fine strands woven together and you can string them out by using a toothpick. As the 1/64-inch stuff comes out in strands, it is very kinky. If you want it straight like the material in the Phillips flies you can wave it over a steaming teakettle and smooth it out with your fingers.

George Cornish, a New Jersey fly and bug builder, makes a fine streamer by putting the Mylar tubing on the hook with part of the strands pulled loose. There is hair tied on ahead of the Mylar and flowing back over the body. Then the kinky strands make a sexy tail. I have done very well on snook and small tarpon with that.

You can get Mylar sheets and tubing from Dan Bailey's Fly Shop, Box 685, Livingston, Montana 59047. They have it made up for fishermen. There are undoubtedly many other sources and I ain't in the business but that should save me a lot of mail. You can get the tubing in sewing shops too.

In the water, these strands have a sparkling glimmer not quite like anything else.

SOME TIME BACK I said good things about the new Cortland Micron casting line, made much smaller in diameter than most lines of like strength. After long, hard use it's still in business and no complaints at all.

It gives extra distance because of its small diameter, a big factor on a spring bluefishing expedition. I am using the 20-pound test Micron for both fresh and salt water. I have heard some casters say they felt the 12-pound Micron was actually too small in case of a backlash.

But fishing tackle dealers I have talked to have wept bitterly about the color—not because plain white isn't just as good but because some fishermen insist that black is the only good line color—or tan—or speckled—and so on.

The white stuff suits me fine. I don't think color is important one way or the other for casting line, but the insistence on a certain color is strong proof of the efficiency of advertising. At various times, black, speckled or camouflaged line has been accepted as the best—and white? Looks like sewing thread.

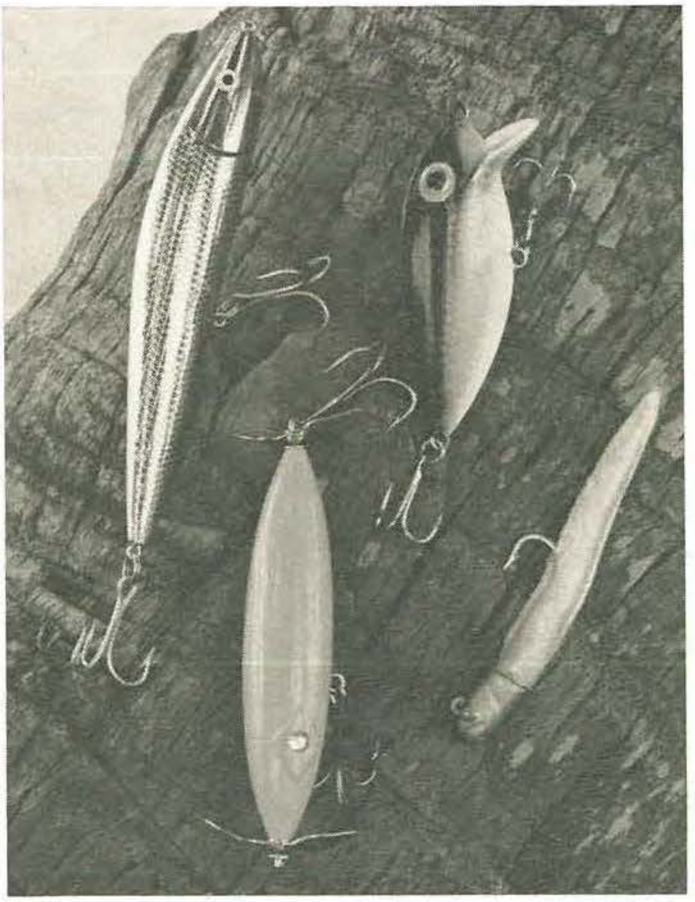
THE INNERTUBE and harness floating outfit such as the one produced by Fish N Float, Tucker Duck and Rubber Company, Fort Smith, Arkansas, is highly satisfactory in deep, quiet water. I have one of the latest that works perfectly and safely. The metal fins that attach to your feet are excellent although some anglers prefer to use regular swim fins and propel themselves backward. There are suspenders for use with these "bubbles" if you have to walk across land while fishing streams but the suspenders aren't helpful for me in deep water.

Getting into the "seat" from a boat takes a little doing. I get in by sliding backward over the gunwale on my stomach, sticking my feet through the proper places as I go. A ladder such as used on ski boats would help.

These floating devices have been used successfully for many years, and I first saw them in the Midwest. They are very safe once you're in the "saddle," but it takes a little thought when you slide off a boat in deep water. You must be careful not to fall out of the tube while your feet are hooked in the saddle or seat.

On the whole I think these are marvelous units, leaving both hands free and allowing satisfactory movement. Simple, homemade ones are satisfactory

The Fish 'n Float, commercially produced "bubble" that makes use of a truck innertube, has been successful for many years. Propulsion is with swim fins or metal strap-on foot paddles.



Some newsworthy lures mentioned, from left, South Bend Sea Bee, Diamond Eye floater, Thin Fin and Bait Tail.

too. All you need is a big innertube and some kind of seat to keep you from falling through.

Still, it isn't often as comfortable as the professionally designed article.

We must take space to discuss some of the newer lures. An adaptation of the plastic eel as the wiggly part of a heavy-headed jig has been successful. The ones I have been fooling with are made by the Alou Tackle Company, Inc., 151-29 34th Avenue, Flushing, N.Y. 11354. They come in a variety of weights from light spinning to surfcasting. Now these are not meant to be wadded up at the fish's leisure but are to be fished like hair-bodied jigs. The name is "Bait Tail."

That Diamond Eye Lure made by Capt. Jim Strader in Florida and employing an interior noisemaker as well as a gleaming "diamond eye" is still effective. It is made both as a floater with spinners fore and aft, and as a sinker.

Many fishermen would rather see it in scale finish or something rather than solid color. Probably wouldn't affect the fish acceptance but might be prettier for fishermen.

A new plug in the same silhouette as the Rapala and its imitators is the Sea Bee by South Bend, and we have had excellent results with it on several species. It floats at rest but has a built-in wiggle when retrieved. It casts beautifully and shows no sign of wear after being clobbered by sundry tarpon, snook and redfish (channel bass).

One that has been used with success on schooling bass is the Thin Fin, floater-diver by the Storm Manufacturing Company, P.O. Box 265, Norman, Oklahoma. It's one of the most attractively built baits made with a super finish that comes close to true, fishy iridescence.

A youthful friend who suffered a bad shoulder injury in Viet Nam has caused me to revive an old theme of mine—the desirability of learning to fish or shoot with both right and left hands.

It's best done while you're young, of course. Right now I'd give a good deal if I could operate from both sides as advancing years can bring all sorts of ailments and injuries, but at my age I lack the gumption to learn to do things left-handed.

There are some few fishermen and hunters who are truly ambidextrous; others have developed abilities which approach that happy state.

Although strongly right-handed in most things, I can operate a canoe paddle equally well with my left side. I learned to do it as a kid because everybody else was right-handed. I wish I'd learned to cast and shoot from the left too.

And on the subject of youth: Most of the skills of fishing can be learned with amazing speed by young men or women. It is a little odd to see the old-timers admired as the greatest casters, for example, simply because they are well known.

Right at present there is something of a boom in fly fishing with a few young people taking it up and, fishing as often as he can manage, a young man can become about as good as any grizzled veteran in approximately a year.

I was fishing the other day with a young ex-footballer who had taken up fly fishing only a year ago. Granted that some of his expertise was the result of physical power, he still made as good a showing as many fishermen with long careers. Most of us old timers get sloppy with our casting although improved tackle has made us continue to look good.

A note about prosperity: A tackle salesman told me the other day that the surest way to sell a glass rod is to increase the price.

"People are price conscious these days," he said, "but in reverse. Many fisherman feel that a $75 glass rod *has* to be better than a $35 glass rod."

Some excellent rods, discontinued but not necessarily inferior models, are being sold with the manufacturer's name erased at very low prices in sporting goods stores. If you know something about rods, it might pay you to sniff around a little. ●

Zookeeper to Florida's

Most Primitive Wildlife

By JOHN FIX

FOR THE FIRST time, through the efforts of a south Florida lady biologist, microscopists everywhere can view at their convenience the fascinating microorganisms existing in Florida's subtropical lakes, rivers and canals.

These microorganisms are being prepared in a dry "sleeping cyst" stage from which they may be revived repeatedly with the addition of ordinary tap water. They may also be made dormant again for later revivals simply by permitting them to dry out. In the dry cyst stage protozoa are practically indestructible, being able to withstand rough handling, great extremes of heat and cold, and long periods of inactivity.

South Florida's inland waters are believed to contain the largest conglomeration of protozoa on earth. Their great number and variety is due to the fact that the brackish waters in the area of the seacoasts will support microscopic life tolerant to fresh water and other microscopic organisms tolerant to salt water.

Additionally, being tepid, these same waters will nurture life tolerant to cold and other life tolerant to heat.

The lady responsible for facilitating the study of south Florida's one-celled animals is petite, vivacious Carolyn Tripp, whose laboratory adjoins the Florida Everglades.

The successful result of Carolyn's three years of intensive experimentation is named, appropriately enough, Micro-Zoo. In Micro-Zoo the protozoa are being bred to an unusually large size that permits them to be viewed under a low-power microscope—even with the aid of a strong magnifying glass. Also, eliminated from Micro-Zoo are all protozoa potentially harmful to humans, such as those found in some canals and in sewage.

Prior to Carolyn Tripp's successful efforts to breed larger-than-usual organisms and to lull them into a sleeping state in which they can be transported and from which they may be revived upon command, it was virtually impossible to study in a laboratory the prolific protozoa of Florida's inland waters.

Carolyn had been teaching microscopy at Miami's sprawling Museum of Science. She had been greatly distressed when repeatedly her attempts to show students pond water specimens under the microscope ended in failure because protozoa went into dormant stages from which it was impracticable to revive them. This dormancy was due to a lapse of time in getting the animals from the pond to a microscope slide. It was also due to temperature changes which the protozoa were unable to withstand without encysting. This ability of the protozoa to retreat to a "cyst," or seed form, when the going gets tough is one of the marvels of Nature. It illustrates the extent to which Nature will go to ensure the perpetuation of her species.

The larger animals of our planet are able to change their environment when that environment becomes inhospitable. Not so the tiny protozoa in their tiny aqueous world. These have nowhere to go, so they have learned the trick of encysting—withdrawing into a dormant stage from which they will emerge only when conditions have turned favorable for their continued survival.

Carolyn, with her boundless interest in the microscopic world, had long waited to share her enthusiasm for microscopy with others. She felt the problems that had made it theretofore impossible were not insurmountable. She set up a laboratory adjoining her home and began the long period of experimentation that resulted in Micro-Zoo.

Her interest was with the protozoa common to Florida waters. She had found these to be most prevalent on the roots of the common water hyacinth. By collecting cysts of an unusual size, then activating and selectively breeding them, she was soon able to consistently produce animals large enough to be viewed with lower-power optical equipment. Carolyn had passed her first hurdle in an attempt to place Florida's protozoa within view of everyone.

Next she set about in search of a "carrier," a porous substance into which the protozoa could be induced to take refuge as they became dormant. This carrier was also to serve as a vehicle for transporting the minute life forms, so small they could be contained 50,000 at a time in a teaspoon. The ideal carrier proved to be a material called vermiculite, a porous member of the mica family of minerals, well known for its water absorption qualities.

Carolyn's remaining laboratory task was to eliminate the harmful microorganisms, the coliforms. She had been gathering her hyacinths for the collecting of parent cysts from various open waters. She now began to cultivate these hyacinths in a large pond adjoining her laboratory. In this manner she was able to breed out the protozoa likely to be harmful to humans. Her Micro-Zoo today is so pure it may be safely swallowed by a child.

Because of Carolyn Tripp's perseverance and zeal, Florida protozoa are now being made available in package form at toy stores and hobby shops. Micro-Zoo has been adjudged so important that Tasco, world's largest exporter of optical equipment, is offering it as an accessory with its inexpensive low-power and student microscopes.

Protozoa were the first animal life forms on earth and because of their near-indestructibility may well be the last to survive. It is estimated they have existed on our planet for more than a billion years. Their presence was first discovered by the Dutch optical pioneer Anton Leeuwenhoek in 1675.

Scientists now believe that when man has more fully explored space, the life most likely to be found on other planets will be protozoa such as are now contained in Micro-Zoo. ●

Photos By John Fix

Protozoa from Florida inland waters, above left, as viewed with low-power microscope by biologist Carolyn Tripp, right.

the declining

American Bald Eagle

can it be saved?

HE WAS A magnificent sight sailing aloft high over St. Vincent National Wildlife Refuge, his chalk white head and tail emblazoned against a cloudless, deep blue, March sky. In less than a minute he was gone—soaring out of sight behind the tall pine trees. At the age of 34, I had seen my first bald eagle in the wild.

How unlike that unforgettable experience was the very first of this species I ever saw. He was a caged bird with one great wing missing, the victim of some unknown offender's ignorance and marksmanship.

Surgical amputation and good care had saved the eagle's life but not its dignity. Though still defiant, now it was wholly dependent for daily food and water upon its greatest enemy and chief competitor, man. It was an incongruous and pathetic situation. In addition to having been permanently maimed, the victim was ignominiously placed on public display like a two-headed calf, hardly a fitting tribute to The King of Birds.

But there was a reason.

The lettered sign in his roomy enclosure at the State Fair at Tampa drew attention to the pitiable condition of the grounded eagle, told by what means it had been brought to that ignoble state, and implored viewers to help save the bald eagle by helping to prevent that particular form of wantonness, the destruction of the national bird through the misuse of firearms.

Those of us who planned the Game and Fresh Water Fish Commission's exhibit at the fair that year placed the eagle there, through the kind cooperation of Busch Gardens, Tampa, hoping the distastefulness of the scene would pack enough emotional wallop to impress every onlooker with a conservation message.

Many times since I saw my St. Vincent eagle, only last year, I've wondered how many Floridians twice my age have never seen one and how many half my age and younger will never see one. The exercise is purely academic but it helps bring into perspective the worsening situation in which the bald eagle population, in Florida and elsewhere in the United States, finds itself.

It is undoubtedly a real king. It has a long history of usefulness in nature and symbolism for man, not to mention the beauty it holds nor the size it attains. But the American Bald Eagle, the official national emblem of the United States since 1782, a proud symbol of freedom for centuries—this living legend is apparently on its way out. Extinction is a dismal term, but that may be where he's bound.

The best estimate of Florida's current bald eagle population is only about 400 to 500 birds. From 200 to 250 active nests are still found in the state, according to the Florida Audubon Society, and we can assume that a pair of adult birds accounts for each. There are odd immature, unmated birds, too.

Incidentally, bald eagles mate for life. However, if one of a pair dies the survivor will seek a new mate, sometimes taking a juvenile bird if no "unattached" adult of the opposite sex is found.

The above figures apparently represent an increase from the population reported by the U.S. Fish & Wildlife Service five years ago, when an estimated 230 active nests were known over the entire range of the Southern Bald Eagle—New Jersey to Texas along coastal areas, and northward through the Mississippi Valley to eastern Arkansas. Though the report did not say so, most of those nests surely were in Florida. For many years now Florida and Alaska have been the only states recording successful bald eagle reproduction, albeit on a much reduced scale from the old days in both states. A formerly good concentration of nesting eagles in the Great Lakes region has been declining steadily, according to published reports.

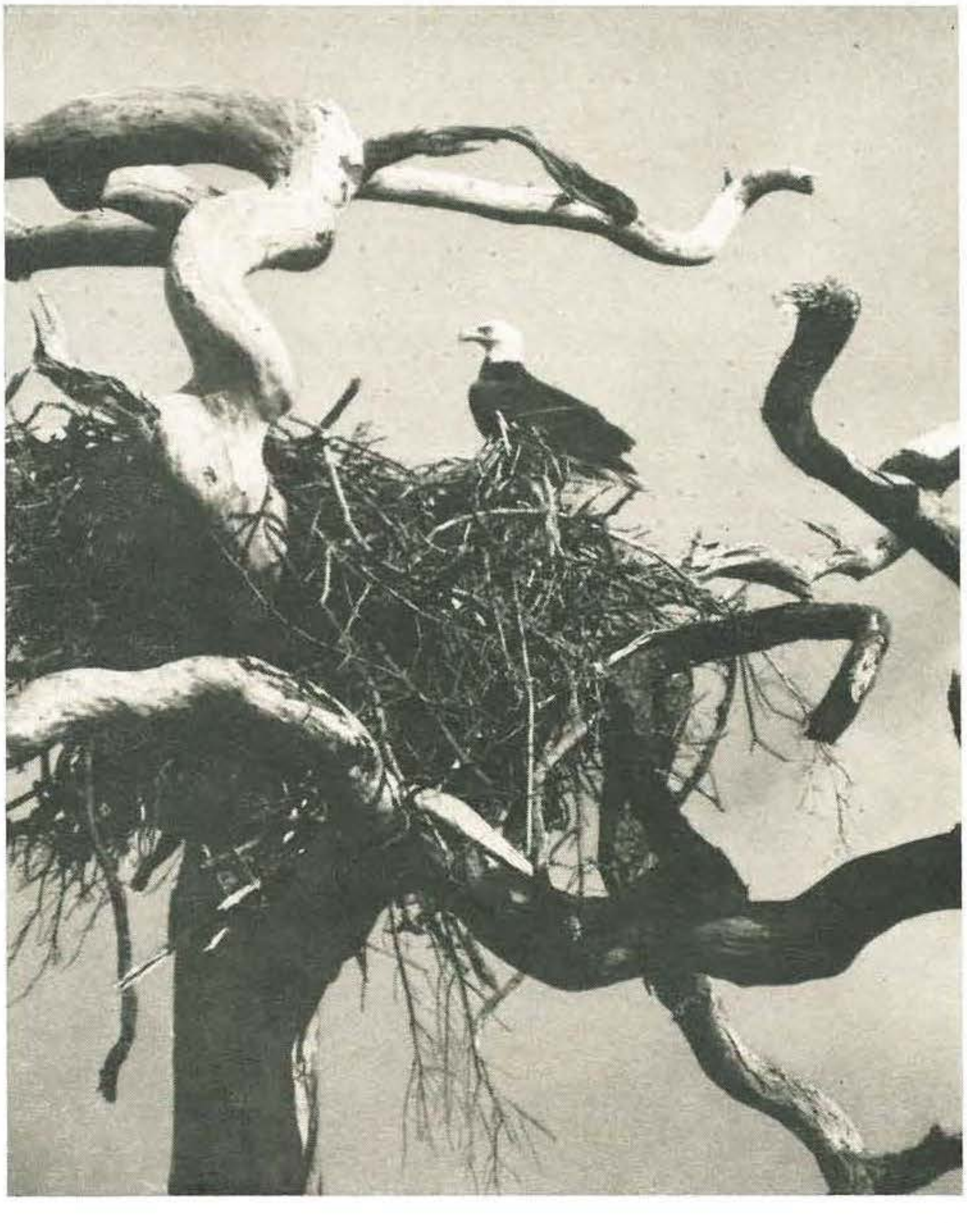
The late Charles L. Broley was a Canadian who banded over 1,000 young eaglets in Florida—over six times the combined total of the species marked by all the other bird banders who ever lived! Understandably known far and wide as The Eagle Man, the indefatigable Broley, who died in 1959 at the age of 79, climbed pine and cypress trees over 100 feet high in order to mark the 3-to-6 week old eagles for study. He banded Number 1,000 in 1948 at the age of 68, and continued to climb rope ladders into his seventies!

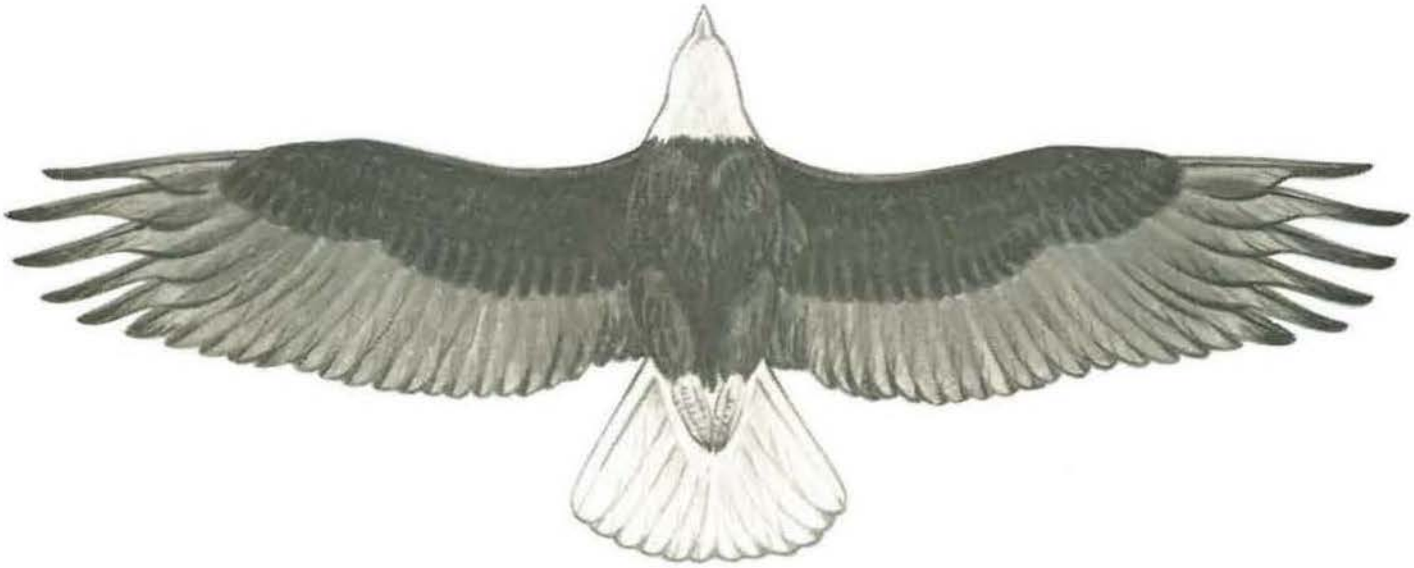
(*Continued on next page*)

The bald eagle, left, is truly a magnificent bird, master of all he surveys. The gigantic nest, or eyrie, is reused year after year by the same pair. One "super nest" near St. Petersburg was 20 feet deep by 9½-feet wide—probably the largest in America, say ornithologists. It no longer stands. The nest shown at right is on Marco Island, Collier County.

By GENE SMITH

Photos From
The Marco Island
Development Corporation





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Broley estimated there were about 450 active eagle nests in Florida in 1949—a population of roughly 1,000 adult birds. And that was just after a disastrous hurricane, in 1944, which blew down many old, traditional eyries, and three consecutive years of nesting failure in '47, '48 and '49.

In 1949 Broley reported that 65 out of 108 nests he had under personal observation, from Ft. Myers to Clearwater, produced no young. There were various reasons for this whopping 60% nesting failure, some obvious, some quite mysterious.

The reproduction rate among bald eagles is 1.5 young reared per nest, so that year alone Broley noted in his records "the non-production of some 97 young birds."

Interestingly, up until then only 80 eagles of the 1,000-odd he had banded over the previous *ten years* were known to have been victims of irresponsible shooters. The losses resulting from environmental problems had been greater in a single season than reported gunshot losses in ten.

In FLORIDA WILDLIFE, February 1950, in an article reprinted from AUDUBON MAGAZINE, he said, ". . . From 1939 to 1946 I could see little change in the nesting success of eagles in Florida . . . But 1947, 1948 and 1949 have been disastrous years, with nesting mortality so serious that I am deeply concerned about it . . ."

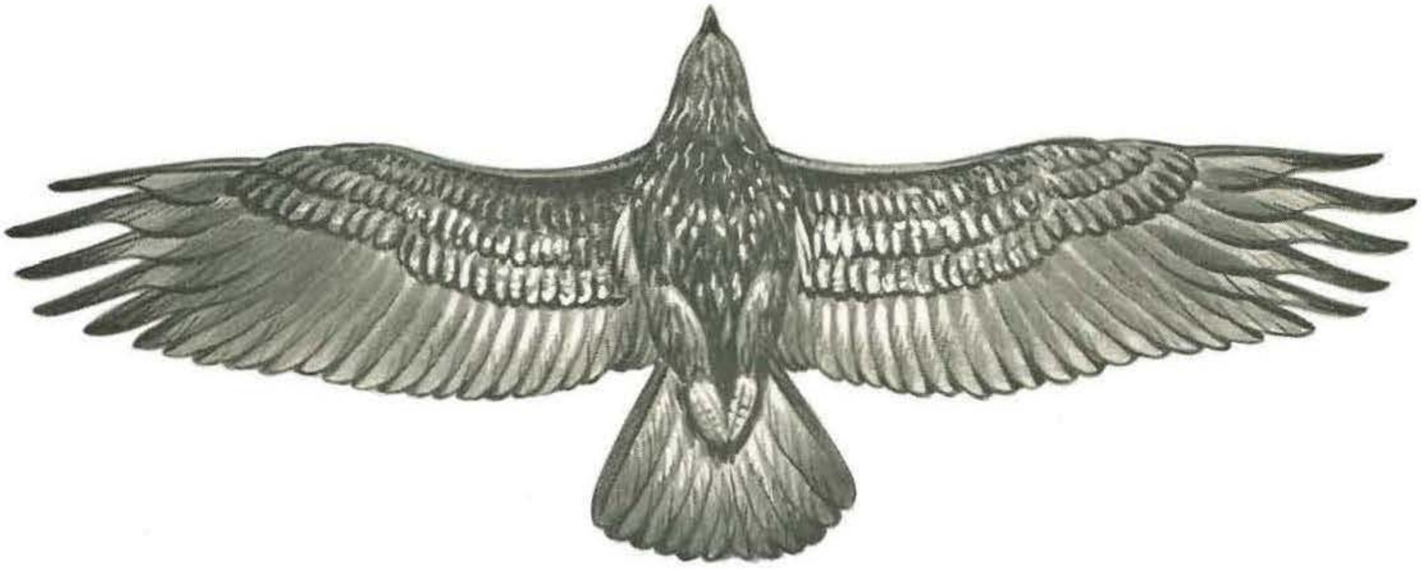
Broley's records show that in '49 some adult females simply did not lay eggs. Twenty-three occupied nests were empty. In another 31 nests, eggs were laid but did not hatch! These were shocking developments, indeed, and unheard of until the late 1940's. Continuing the tally, four formerly active nests were deserted, three were taken over by great horned owls, the cutting of nesting trees destroyed another three, and, finally, one nest was robbed of its eggs by humans.

A hundred and eight nests; 65 failures, 54 by mysterious means and only 11 from normally experienced causes. Could it be that DDT had even then begun to take its toll? No one can say, of course, but is there a more plausible explanation?

The adult bald eagle, above, left, shows a pure white head and tail in flight and perched, below, at bottom. The young eagles, above, right, are all brown until their fourth year. Since vultures are protected, also, there is no excuse for shooting any big bird in Florida—except wild turkey during hunting seasons.

Artwork By Wallace Hughes

Regardless of history, we have seen the trend persist along the coastal areas of Florida to the



present. We are losing east and west coast eagles . . . and in prime eagle range of just 22 years ago. (The bald eagle is, after all, a fish-eating, typically seacoast-living bird, hence its Latin name, *Haliaeetus*, meaning "a sea eagle," *leucocephalus*, meaning "white headed.")

Today, our *inland waters* are the greatest stronghold of the Southern Bald Eagle. The broad Kissimmee Valley-Lake Okeechobee prairie country—over a million acres of it—is included in the Florida Audubon Society's highly successful Cooperative Bald Eagle Sanctuary program, entered into with over 80 Florida ranchland and other property owners interested in preserving remaining eagle habitat, particularly known nesting trees. (Old nests are refurbished and added to each year and some have been used by the same pair of eagles for 30 and 40 years.)

Another 1.7 million acres around the state, owned by about 35 persons, firms or agencies, including over 600,000 acres of state and national forest lands and 40,000-acre Merritt Island National Wildlife Refuge, are also included in the cooperative sanctuary plan.

The shortage of suitable nesting trees, due largely to widespread land clearing, lumbering, building, etc., and the resulting "people traffic" into formerly wilderness tracts, comprise one of the major, and longstanding, threats to the remaining bald eagles. Broley recognized this, as has every serious eagle enthusiast, and urged the preservation of more inviolate sanctuaries—parks, wilderness areas and island nesting sites—where these great, harmless birds could live and nest in safety.

Places like the Everglades National Park, the small individual Audubon cooperative sanctuaries, the smallest being only 1 acre, and the sprawling Kissimmee Valley wilderness provide the greatest hope that some Florida bald eagles will survive—*if they continue to nest successfully*.

In the face of the insidious threat not only to living birds but to their reproductive capacity, that threat being attributed by scientists to our free use of DDT and other "hard" chemical pesticides, that "IF" is a big one.

Dr. John Craighead, writing in National Geographic Magazine, September 1967, said, ". . . Among 56 dead Bald Eagles analyzed in 1963 by the U.S. Bureau of Sport Fisheries and Wildlife, all but one harbored pesticide residues. It has been established that a DDT and DDT-derivative accumulation in the brain of only 58 to 86 parts per million is lethal to Bald Eagles. Even lesser amounts may cause adverse behavioral changes and metabolic disorders. Researchers fear influences on fertility, but more work is needed to determine effects . . ."

The damaging chemicals are, of course, being ingested in the eagles' food and stored in their tissues. Their diet is about 90% fish.

In a newsletter from The Conservation Foundation, Washington, D. C., dated May 5, 1969, there appeared this unsettling report on environmental conditions and the eagle: "Scientific examination has shown that DDT residues cause a hormone induction in eagles and other birds which upsets calcium metabolism and produces egg shells too thin to protect embryos. Now, according to Alexander Sprunt IV, research director of the National Audubon Society, 'the ultimate has been reached—no shell at all.' On April 13, Sprunt said, Audubon researchers found an eagle nest on the shores of Lake Superior in northern Michigan which contained (an egg with) . . . no shell, just a membrane . . ."

He predicted that unless we ban DDT the bald eagle will become extinct, pointing out that "hard" pesticides such as DDT have caused similar eggshell problems in other species and have eliminated the peregrine falcon as a breeding bird in the eastern United States.

According to the same newsletter, attempts to strengthen pesticides regulation "do not normally

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fare well in Congress, where the four committees or subcommittees dealing with agricultural legislation and appropriations are heavily dominated by farm and pesticides-oriented congressmen. For example, bills to ban the interstate shipment of DDT have been referred several times to the Senate Agricultural and Forestry Committee, which one observer calls a 'dead end' for that kind of proposal."

All the 100-foot nesting trees in the world, each with a 30-mile wilderness with good fishing waters around it, won't help a poisoned eagle.

But on the brighter side, George and Dorothea Heinzmann of Winter Haven, reporting for the Florida Audubon Society on the 1966-67 nesting season in the Kissimmee Valley, their special "eagle ogling" territory for many years, said, ". . . In the seven preceding years, 12 nests were lost, but were replaced with 12 new nests constructed. Two were lost this season, replaced by one new nest. Thus, over the 8-year study period, 14 nests were replaced by 13, and the sanctuary is maintaining a healthy level in population as well as reproduction . . ."

The Heinzmanns recorded 75 nests in the '66-'67 season, 64 of which were active. Forty-seven were successful, producing a slightly lower-than-average 53 eaglets. Many of the pairs produced only one young bird.

Eagles almost always lay two eggs a year, sometimes three. It is a big event in the eagles' life. If a nest is destroyed—by man, weather or an aggressive horned owl—the eagles will most likely not lay again that year. In fact, they may skip several seasons before resuming household life and family rearing.

In Florida, the early nesting eagles begin laying around the first week in November. Other eagles are laying into late December. Incubation, shared by both sexes, takes about 35 days. Care of the slow-developing young takes an incredibly long time—about six months. So, in April and May when smaller birds are building their nests or bringing off broods, young eagles are preparing to leave their nests. The plump offspring may then weigh more than their highly solicitous, overworked parents. (Florida eagles weigh 10 to 13 pounds each, sometimes a little more. Females weigh a bit more than males; the southern bald eagle is slightly smaller than the northern but otherwise identical.)

It is easy to imagine that after six months of hard-working togetherness, the parent birds are ready to enjoy a change of routine and scene. The young eagles, too, are understandably ready to see something new.

And change is exactly what they all get.

Charles Broley's epic banding work revealed conclusively that nearly all Florida's bald eagles leave the state for a short time during the hot summer months. But most surprisingly, even the young were found to visit the northeastern United States and Canada, some venturing as far as 1,600 miles from home.

One juvenile bird, for example, was banded by Broley on February 25, 1942 at what was then called MacDill Field Army Air Base, Tampa. The fledgling was then four weeks old. It first would

Today, only Florida and Alaska report even fair bald eagle reproduction. Lost nesting trees plus human encroachment into the wilderness, and the sinister effects of chemical pesticides on hatching success, are dooming the eagle, it seems. An eyrie, left, is usually built 35 to 100 feet up. "The Eagle Man," the late Charles Broley, climbed to 850 nests to band 1200 young birds for study. Adult eagles never struck him, he recorded, but the talons of the eaglets did leave many a scar.

Photos From
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have been able to fly around mid-April, according to Broley's reckoning. He reported observers last saw the bird at the nest on April 21. It was found shot in New Brunswick, Canada, nearly 1,600 miles away, just 32 days later!

The bald eagles usually return to their old haunts beginning in September, according to observers, and soon busy themselves with cleaning up and adding to their massive nests in preparation for another long reproductive cycle.

Records show that a few eagles remain in Florida year-round.

Though fewer in number these days, active eagle nests, or eyries, if you prefer, are still found on the Florida Keys and in the Everglades National Park, along the Gulf of Mexico from Marco Island below Naples northward through St. Marks National Wildlife Refuge, and westward to St. Vincent Island refuge in Franklin County where I saw "my" eagle. There are a few occupied nests further westward along the gulf coast, too. Santa Rosa County reportedly has two nests.

Merritt Island and the surrounding area of the east coast of Florida still has a good many eagles, but not nearly the population of the late 1930's—as we might expect, what with all the changes in land use, etc. In fact, there are well below half the active nests now as then in the same geographic area in and around Brevard County.

The evidence is undeniable that changes in environment are largely responsible for the declining bald eagle population—including changes, obviously for the worse, that have contaminated the food supply of many birds of prey, fishes, waterfowl, songbirds, and other wildlife. Too, the loss of mature and maturing birds through death by outright poisoning is serious in some sections of the country. It seems that the fish-eaters, like pelicans, bald eagles and ospreys, are faring the worst in our war on bugs.

The bald eagle has been fully protected under federal law since 1940 (since 1952 in Alaska, under wildlife laws). Florida now even protects the vultures from shooting, partly because it was feared people were gunning the all-brown immature bald eagles thinking they had vultures in their sights. This makes sense because the young eagles do not get their distinctive white heads and tails until their fourth year of life, a long time to gamble on being mistaken for a vulture.

In 1967 the Florida Audubon Society offered a reward of $100 for information leading to arrest and conviction of persons guilty of killing or injuring bald eagles. Although they have not paid a single reward since that time, the offer still stands.

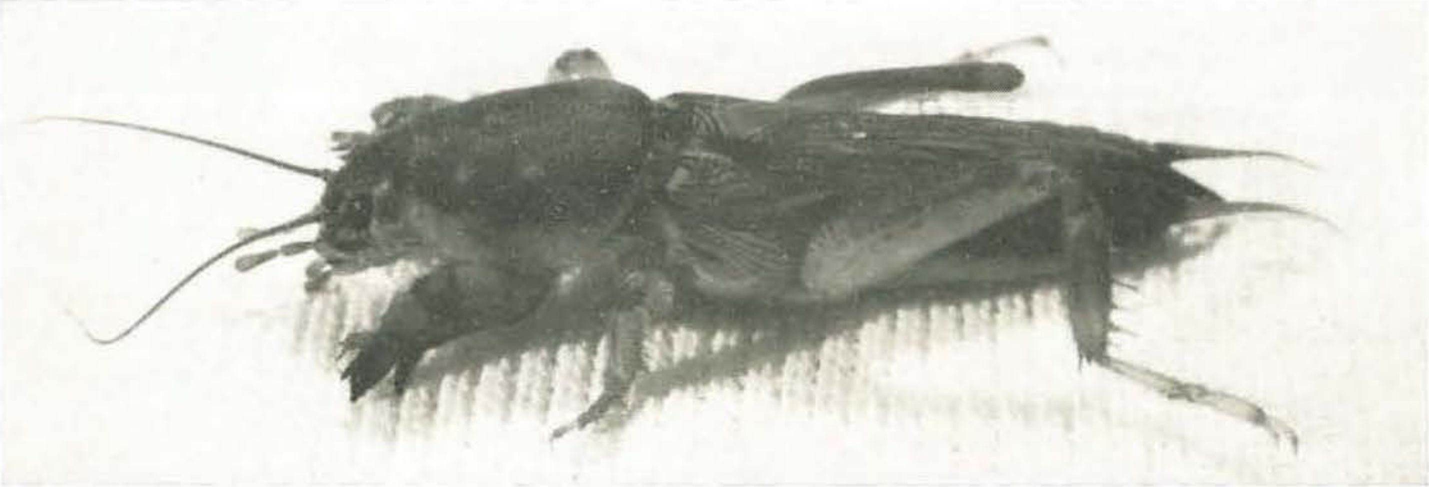
Now, with all "large, soaring birds" under the full protection of the law, a person would be pretty hard put for any excuse for shooting a bald eagle of any age. It is hoped by the Game and Fresh Water Fish Commission, by the state and national Audubon groups, and by all others interested in saving the bald eagle, that no arrests must *ever* be made and no rewards must *ever* be paid for this offense. But violators, if and when they are detected, will be dealt with firmly.

But we cannot ignore the greater danger of which we have earlier written . . . the peril of pesticide poisoning.

James Fisher and Roger Tory Peterson, in their book, THE WORLD OF BIRDS, point out there are 8,580 "good, full species of birds" alive on the earth, the product of 140 million years of evolution.

Of the pesticide danger they warn:

". . . Peregrines and ospreys have long life spans and are slow breeders. They are not like small songbirds that quickly recover from a crash. The decline of the birds of prey is not safely reversible, and bald eagles, golden eagles, ospreys, peregrines, short-winged hawks, too, are putative dodos if we do not alter our ways . . ." ●



The over-inch-long cricket is designed for life underground, yet it is a surprisingly strong flyer. Blunt, strong head and thorax plus sturdy forelegs help it push through moist soil with ease.

an oddity even among insects . . .

The Mole Cricket

THE FIRST mole cricket I saw scared the devil out of me.

I was scooping a mess of Apopka-caught black crappies from the bottom of a five-gallon bucket when, seemingly out of nowhere, this small brown apparition, covered with wet and slime, scurried across my finger, which I removed in haste—for this northern-born youngster wasn't about to sacrifice my finger—or my life—to make any big personal discoveries.

If you've looked at a mole cricket up close, you'll probably forgive my youthful concern.

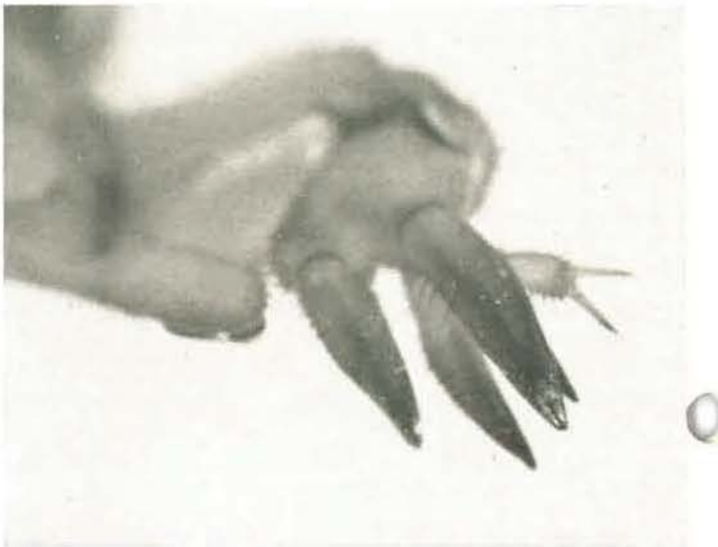
As big around as a lead pencil, up to one-and-one half inches in length, the usually brown or blackish mole cricket could pass for an insect from another planet. Its far-out design borders on the grotesque, thanks to the broad forelegs and shovel-like "paws" which equip the mole cricket for its manner of life—burrowing in moist soil. These forelegs end in stout claws that enable this oddity to tunnel quickly, and presumably happily, through the soil. Flexing modified foot parts against each other creates a tiny set of pruning shears for clipping the small root hairs which may get in the mole cricket's way.

On one of these foreleg joints, the tibia, the mole cricket wears its ears—minute slits for detecting vibrations and sounds.

A body covering of velvety hairs furthers the "mole" image.

They're built like a miniature Sherman tank, a likeness furthered by their purposeful manner of scurrying about. Unlike the ordinary cricket which jumps about on its long hind legs when danger threatens, the mole cricket, lacking this exaggeration, moves about steadily and smoothly on its shorter legs.

During warm extra-humid spring nights, we've noticed they'll make a mating flight to bright lights. Once we saw them in great numbers at one of these stay-open-late convenience stores. Another time they were slamming into the brightly lit coming attractions signs at a local movie theater. In both



cases, they horrified passerbys with their weird appearance and solid thuds.

These insects are remarkable in this strong flying ability. Adept at tunneling, equipped with the stout legs for burrowing, the mole cricket can still rise to the soil surface and take off like a Polaris missile.

Mole crickets live in moist soil, digging down to eight inches during the daytime, working closer to the surface by night. Their nighttime forays create a long, rambling network of humped-roofed tunnels in soft lake sand—or in newly planted lawns.

Rice-like eggs are laid neatly in hollowed out caverns and faithfully guarded by the female until they hatch. These nesting caverns are the size of a chicken egg and located about eight inches under the soil. The young, called nymphs, resemble the adult in appearance and food habits.

While mole crickets prey on other small insects and earthworms, they are most destructive among tender growing plants where they nibble at the root systems, uproot seedlings, eat holes in larger roots, and generally raise havoc. Their tunnels expose roots to air and create unhealthy plants. They are especially destructive to potatoes, turnips, and peanuts in Florida, Georgia, and South Carolina. At night, above ground, they'll munch on anything edible, including strawberries which happen to be lying against the ground.

Control is relatively easy by use of baits, sprays, or powders.

If a fisherman could gather them in sufficient numbers, mole crickets would make a tempting morsel for a bluegill or shellcracker. With the exception of the short-lived spring mating flurry, however, collecting a couple dozen at any given time is a rough proposition. We can catch a few at the edge of our small lake under boards or concrete blocks but once exposed, they dig in with the speed of an armadillo.

A shovel can be useful. We dig around the mazes of tunnels, then throw each shovelful of sand into the lake. Usually a couple of mole crickets will pop to the top and streak towards shore where they can be easily grabbed.

Held in your hand, it feels as though this sturdy little insect is biting but actually it is trying to use its claws to dig down between your fingers.

There are two genera of mole crickets in the States, the most destructive, particularly in the South, is the Changa or Puerto Rican mole cricket (*Scapteriscus vicinus*) and the southern mole cricket (*S. acletus*). The best known and most widely distributed is the northern mole cricket (*Gryllotalpa hexadactyla*).

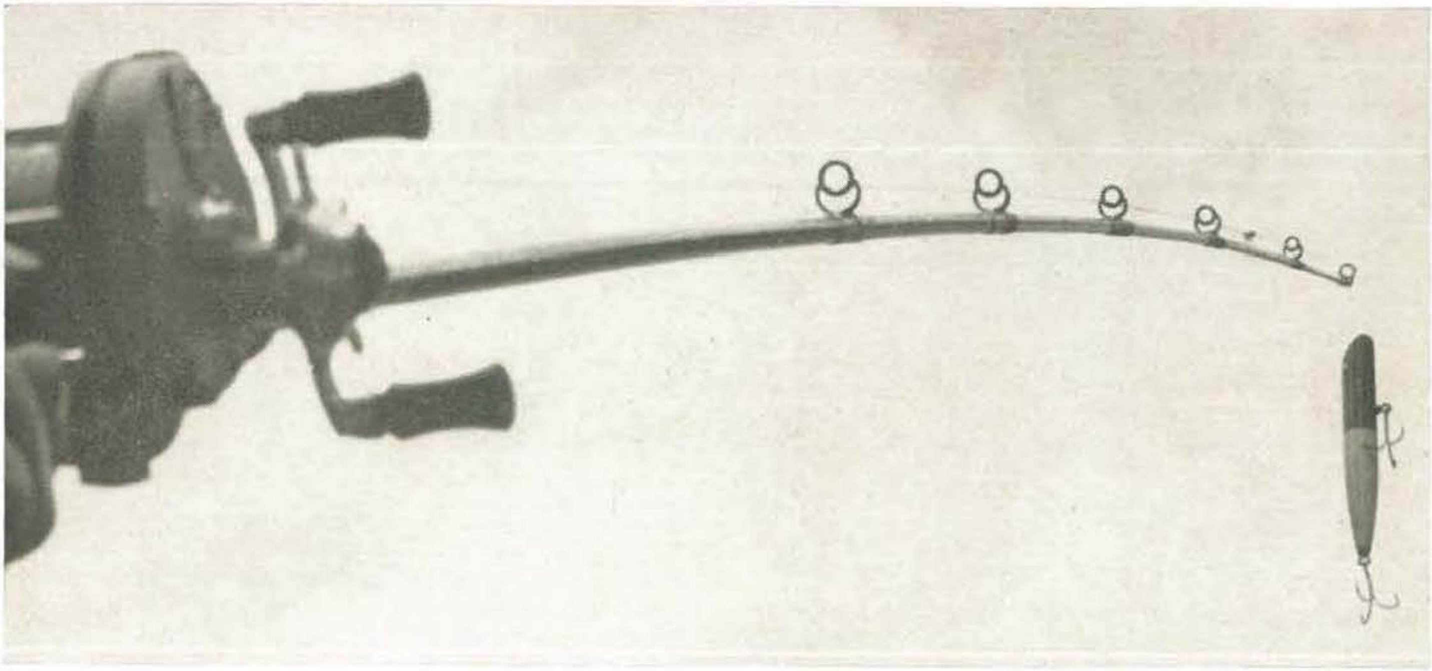
You may hear the latter singing along the lake shore in the summer in a guttural, repeated trill (grr-grr-grr or churp-churp-churp). Two octaves above middle C yet!

Even among insects, the mole cricket is a weirdy. ●

By ART HUTT

Photos By Art Hutt

Rake-like extensions of heavy front legs, shown at left and greatly magnified, are a mole cricket "exclusive," and a great aid in burrowing. Artistic tunneled patterns, right, in soft sand reveal mole cricket's nighttime wandering. By day, this unusual insect will work even deeper underground.



advice offered the angler is to borrow all possible outfits for brief experiments

tailored tackle

I HAVE STOOD on a pier with guys owning a hundred bucks worth of rod and reel who couldn't cast a spoon 60 feet. The bluefish chugged into everybody else's lures but these poor souls never had a chance.

I have watched a man try to cast a 9-inch shiner with a spinning rod made for quarter-ounce lures and a few minutes later I have watched him try to set the hook in a bass with the same rig. Both efforts were entertaining but ineffectual.

I have seen a 90-pound girl trying to cast a quarter-ounce bass plug with a popping rod and 30-pound test line made for something weighing six times that much.

I once traveled from Florida to Arkansas and started a float down a smallmouth bass river with new tackle only to find I couldn't cast with it because the casting rod didn't fit the reel and lures. The other observations were funny but when I boo-booed it wasn't funny at all.

I carried an aluminum boat on my back to get into an Ocala Forest pond to try some bass bug fishing and when I got in there I found my fly outfit wouldn't work—and I am supposed to know about those things.

None of the tackle mentioned was cheap or inferior in any way. It was simply poorly matched. The man on the pier, the guy with the shiner and the girl with the popping rod probably lacked experience and deserved help. My own misfits were the result of misjudgment; in each case I *thought* I knew what I had but I had flubbed after 30 years experience with matched and mismatched tackle.

The words *matched tackle* sound bigger than they are. If you know how to fish with a certain kind of gear you can tell pretty quickly whether it's matched or not—generally.

If you're a beginner or have only slight experience, you need help and when some of the tackle makers found you often can't get that help where tackle is sold they started making up matched outfits to be sure you could get the most out of your equipment. I'm not talking about the cheap boxes with everything from sinkers to stringers but about the first class rods, reels and lines sold as units to people making a serious effort.

The matched outfit as a unit is an important contribution. Even if the fisherman doesn't buy the whole set, he can study it in a catalog or on a shelf and make appropriate substitutes.

Some of the good catalogs have detailed tables showing which of their rods, reels and lines go together. Most fishermen don't see these catalogs but conscientious clerks can study them, even if they aren't veteran fishermen themselves. The service is getting better than it was when I tried my hand at guiding many years ago.

When I was guiding I picked up a guy at a dock for a day's fishing. The car he drove was long enough to need hinges for the turns, his angling costume was current Abercrombie and Fitch and his tackle box was monogrammed in gold.

It was when I stopped the boat to begin fishing that he first uncased his rod and reel, both about the most expensive that could be bought in those days. The rod was a beautiful fly stick. The reel was a Pflueger Supreme baitcasting unit and the line was the then new monofilament spinning stuff. He'd asked for the best and the clerk sold it to him.

Of course he knew nothing about fishing despite the brags he'd made on the way out. He was probably a nice guy, but so sensitive about his lack of experience he had spread on some pretty colorful lies.

Strangely though, there are determined fishermen who have learned to do a good job with outfits as badly mismatched as his. As a stubborn moppet I learned to cast a plug with a single action fly reel and a catalpa pole with staples for guides.

In Canada I have seen expert steelhead fishermen using big, single-actioned reels for casting lures—undoubtedly inferior to our latest models but efficient for a man who learned with them. For that matter, people chopped wood with stone axes for thousands of years.

My point is that although you may get by with mismatched equipment you'll be happier and deadlier with things built to go together. I'm making fun of nobody.

The matched tackle sets range all the way from beginners' spin casting packages to top grade fly fishing combinations and the prices run from less than \$20 to \$300, or more. Almost all of the gear can be bought as separate pieces.

These matched outfits sneaked up on me a little. It was only when looking through a heap of catalogs in preparing this deathless prose that I realized just how popular the matched outfit had become. Everybody seems to either list an outfit at a single price or show a listing of equipment and match-up items.

All of this is a series of steps in the right direction and does much to solve the problems of inexperienced clerks. It still leaves the buyer with the necessity of deciding what he's going to fish for, and how he's going to do it.

Let's take black bass and run through some requirements.

To begin with, the user of mammoth shiners has a vastly different problem from the fellow who wants to spat a plug around the lily pads.

Most shiners are fished with spinning tackle or pushbutton gear. Generally, they are used on rods that are too soft for the job and, generally, they are cast out from a boat. If it's a big shiner, the ideal equipment might well be salt water tackle as the

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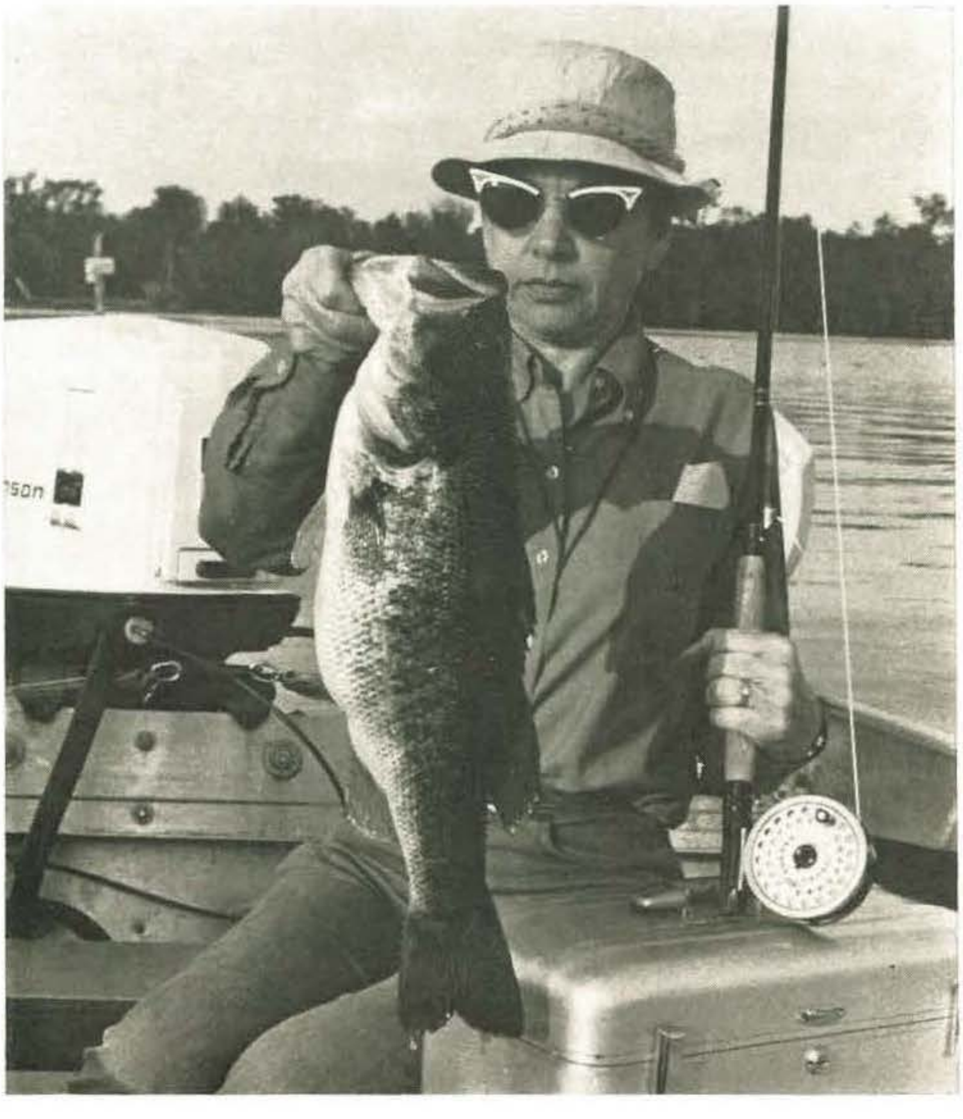
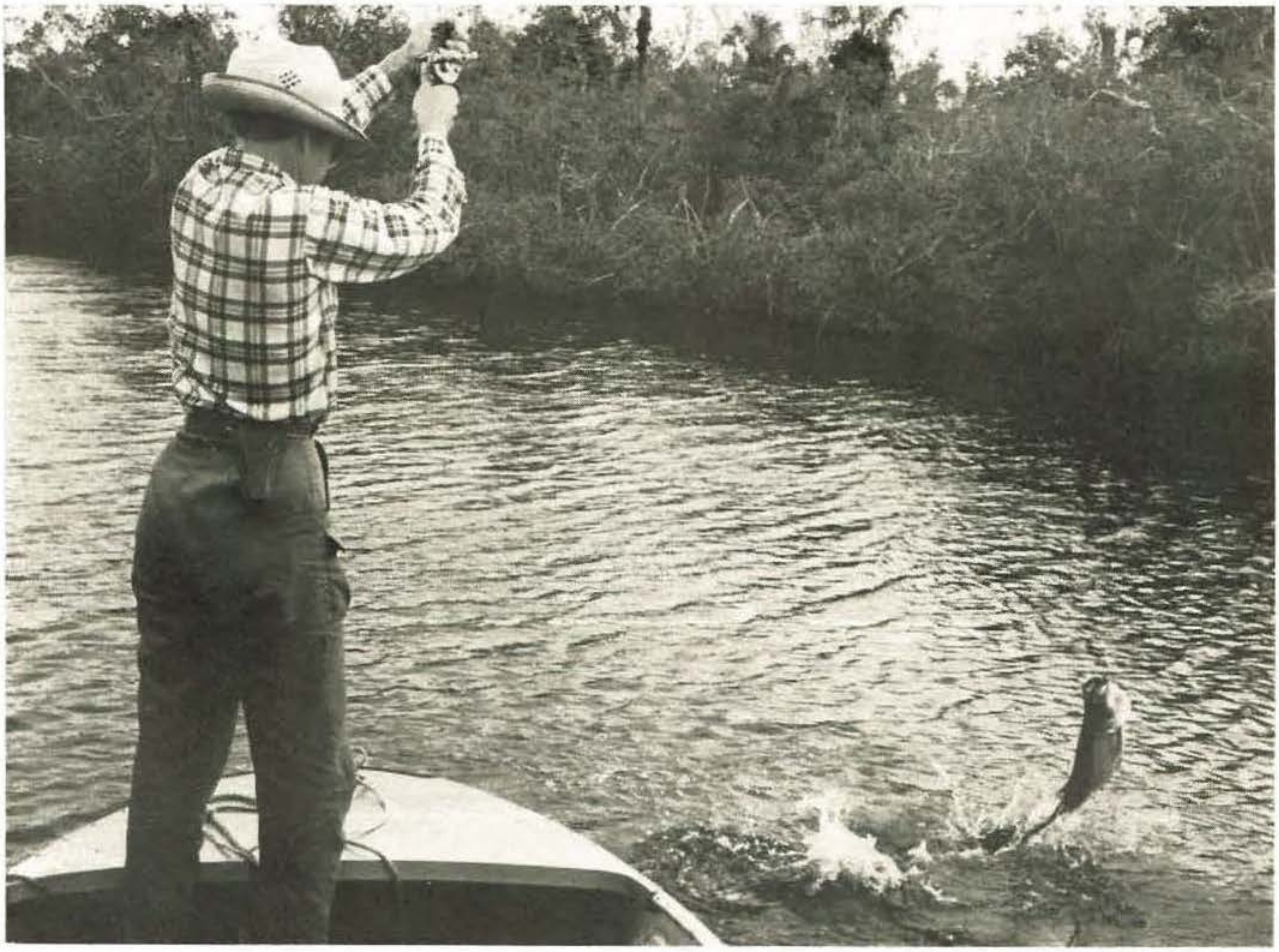
In balancing plugging tackle to lure weight, left, a slight bend should be visible when the plug is attached and the rod held parallel to the ground. This kind of bend is about right for medium-stiff plugging rod. A matched "system," rod, reel and line, right, were used on this healthy largemouth which struck a popping bug. The outfit was a "System 8," meaning it used No. 8 line—the rod and reel matched.



By CHARLES WATERMAN



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bait may be heavier than most surf or trolling lures. Many experts follow the policy of lowering the bait gently into the water and rowing away from it. That's easy on the bait and makes reasonably light tackle feasible. If you follow that system, you can use spinning or casting tackle suited to bass-sized plugs or spoons. If you're actually going to cast a big shiner, you need something special for it.

There are some reels that work with a wide variety of fresh water and salt water rods. The medium-sized, open-faced spinning reel can be satisfactory with line strengths clear up to 20 pounds (not ideal), and with lure weight up to a full ounce and down to about an eighth. If you go to ultra-light lures, your line must be no heavier than 6-pound test, and 4-pound is better. With two spools for your spinning reel you can handle anything from crappie-sized jigs to big bass plugs or shiners.

But you can't buy a matched outfit for all of these things in one package. You need two rods; a stiff one for the big baits and a light one for the little stuff. You *can* get by with one reel, using two spools.

If we'd had the wonderful casting reels we have today, spinning might never have gotten started in America. The modern, free-spool casting reel is as versatile as our open-faced spinning reel, except that I don't think it's efficient with anything less than a quarter ounce. Here again, you need two rods to go from big plugs to quarter-ounce things. You need two spools for your casting reel if you want both mono and braided line, although the new ultra-small braided stuff almost fills the gaps.

I am not happy with the situation concerning casting rods. Most of them are now made for spincast reels and, generally, they run a little soft in the tip and don't have enough full length action. That's not a flat statement as there are exceptions.

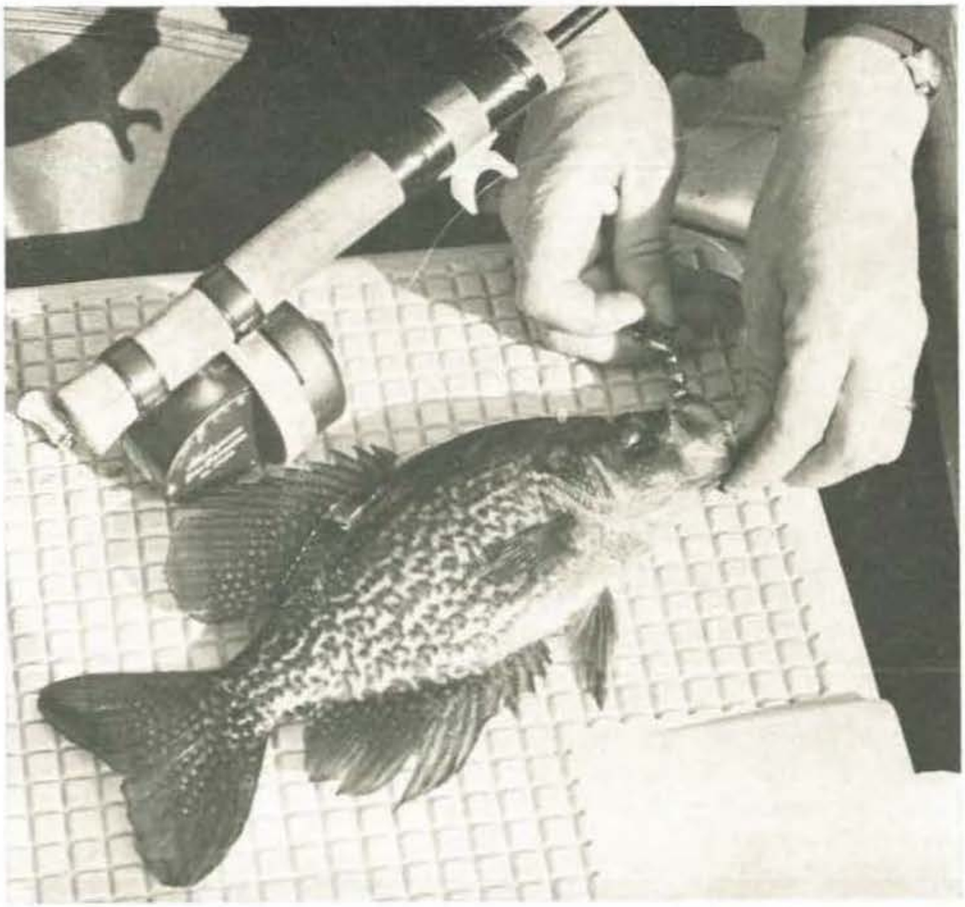
I'm not trying to complicate the matched tackle concept but boundaries of the *ideal* conditions are pretty narrow for any rig.

One of the best jobs I've seen on bass in grass was performed recently by a fellow using a free-spool casting reel and a fairly soft-tipped casting rod. He believed that most bass plugs are too large and that in the shallow, grassy water they scare fish, so he went to quarter-ounce plugs and spoons, casting them with great accuracy for about as far as he wanted them to go with monofilament line.

But his setup wasn't perfect. It was hard to snatch his plug loose from hangups with the soft rod and when he had a strike it took a lot of rod-bending to get a solid shot at the fish's jaw. Since he was using weedless lures, he needed a solid snatch to set the hook.

Fishing right alongside him was another good

Out in the open, left, everything needed for little tarpon is found in an ordinary black bass casting outfit. Little rod, little reel, a little line and a not-so-large crappie, right, on a little lure means a special kind of balance.



Photos By Charles Waterman

plugger. He used the same reel and line but had a stiff, popping-type rod and heavy spoons. He didn't have much trouble with hangups, but he got fewer strikes. When he did get a tally he could put the barb in solidly with just a little snap instead of a long haul.

Matched tackle? Yep—both outfits. But they sure were different.

I went fishing the other day with a guy who favors ultra-soft casting rods and throws accurately with a gentle sweep of the wrist. I admired him greatly until he had a strike. He had been casting from the bow of the boat while I rowed, and when that strike came I found he faced me with the rod bent back over his shoulder toward the front. He actually walked back two steps while setting the hook, rocking the little boat considerably.

"That's the trouble with this outfit," he grinned. "Nobody's perfect."

Of course, the real extreme of this is the fellow who uses an ultra-soft stick while running shiners. He gives the bait slack and lets it go. Then he feels a bass fooling around his shiner and he takes up just enough to feel where the fish is headed. Comes time to set the hook and he almost falls out of the boat before he so much as feels any solid resistance. The line wasn't quite taut, and by the time it comes tight and then stretches a few feet and the rod bends double, our hero is trying to walk on water. He needs a stiff rod.

The toughest matching job on any outfit comes with fly tackle which must be matched to the fish, the fly, the water and the fisherman. Any fly outfit is a compromise, but the manufacturers are now doing a wonderful job of helping buyers.

One of the most publicized fly matching schemes is that of Scientific Anglers who match up everything by the number of the line used. For example, they will sell you a "System 8" rod, a "System 8" reel and a "System 8" line, and send you happily on your way. It may not suit you *exactly* but it will come very close to it unless you're a fly fishing freak. The line number takes over the old letter system. A No. 8 line is the same as the old B line.

This is first class tackle and costs a bundle. Even more expensive is an Orvis bamboo outfit. Not every beginner wants to spend that kind of lettuce, but at the other end of the counter is a complete Martin rod, reel and line rig for less than $25.

Matched outfits must be bought with reason. Now that I have been thoroughly confusing about the casting and spinning outfits, let's mix you up with fly tackle.

Suppose you buy a System 8 outfit sold by Scientific Anglers; you could do a lot worse, for a unit using a No. 8 line is about as good a compromise as you can find for Florida. It will work in both fresh and salt water, is about right for most bass fishing and is only slightly heavy for panfish.

We have been using one of those No. 8 outfits for a wide variety of fish, and the No. 8 line we use is

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called a salt water taper because it has a short, heavy section up forward.

An advantage of the short head is that it will bring out the action of the rod on short casts and minimizes false casting. It is *not* a distance line, but I use it more and more all the time.

Just as is, the outfit was excellent for most bass fishing. Then, for a special purpose, we made a small change.

Our special situation concerned a very narrow, mangrove creek that was full of small snook. The casts would be very short but the streamer fly would be fairly large. We needed a line heavy enough to flap that thing under the bushes with a minimum of effort and no false casting. We got what we wanted by using a No. 9 line on the rod intended for No. 8, and by shortening up our leader from nine feet to six feet and the snook were very pleased.

It's not necessary to be slavish about matching outfits. If you match a fly rod and line, almost any reel will probably do as long as it holds enough line and backing for an emergency and you stay away from really big fish. For Florida I have never recommended automatic reels unless you can keep a separate winder for salt water where fish are likely to put some unkind stresses on automatic mechanisms.

A really stiff casting rod is handy for fishing thick cover like this. Forrest Ware lands a nice bass on FCD conservation area in south Florida.

I consider the weight of the fly reel (within reason) to be of minor importance, and the "balance" between line and rod is critical.

I do not consider the weight of an open spinning reel to be extremely important since it hangs directly beneath the hand.

I think size of casting reels counts big, especially if you palm the reel in your hand on the retrieve. The modern, free-spooling casting reel can be versatile, especially if you have two or more spools for it.

At one time I was almost completely hooked on the direct-drive, nylon-geared reel for my light casting and, in those days, I figured no casting reel could be too fast. Speed in a casting reel, of course, refers to the ease with which the spool starts when you release your thumb and, believe me, some reels can be too fast for some lure and line combinations. My former sneers at people who tightened up anti-backlish devices are no longer valid. Almost all casters, however expert, make some spool adjustments these days. The free spool reel will "balance" with almost any casting outfit if the reel, itself, is of comfortable size and weight.

Balancing the casting or spinning rod is more complex than picking a suitable reel. The lure to be cast should pull the tip of the stick down noticeably when the rod is held horizontally to the ground.

Of late there is a storm of disapproval of the light-tipped rods that made such a sensation in advertising a few years back. These rods were built (in fly, spinning and casting) with stiff lower sections and very light tips. Although this type of rod is not as efficient as the one that bends more gradually (approaching "parabolic" action), it is something of an all-around stick because you use only as much rod as the weight of your lure or fly line requires. It's a compromise.

In the other direction there is now a demand for rods that "bend clear through the handle." Bending into the handle is an excellent feature because it shows that the whole stick is busy throwing your lure or line. As a guage of the rod's efficiency, however, it can be deceiving as a sloppily soft rod will bend into the handle at the slightest provocation.

A full-length bend generally means a slow action rod, which is desirable within reason. A fast or quick tip means a fast action rod. Things can be overdone in either direction.

One of the most valuable bits of advice to any fisherman is that he should borrow all the outfits he can for brief experimenting.

I went fishing with some good casters a while back—three of them. The fishing day was a third over before everybody had tried everybody else's tackle. But that's the way tackle is matched to the fisherman as well as to the lure and the fish. ●

Sight Styles

when your eyes are no longer too young, it may be best to take a good peep or scope sight every time—except for fast action at close, large targets

By EDMUND McLAURIN

IN THE METALLIC sight category, unquestionably the most accurate combination of sights for the rifleman is a micrometer-click rear peep sight used with a hooded front sight, the latter preferably one that accepts interchangeable inserts to take care of different light conditions and specialized demands.

The Redfield No. 63 Globe, Redfield International, Parker Hale and Lyman models 17A and 77 are typical examples.

The combination of hooded front sight and precision-adjusting rear peep sight is especially good for competitive target shooting and for deliberate, methodical shooting from prone and sitting position, but it is too slow for the hunter who must shoot quickly at erratically moving targets.

For the hunter, an uncovered front sight—like the specially designed, excellent Redfield Sourdough model, or a plain, sharply silhouetted blade—is more practical.

Several shooters—notably, all of them young and not yet needing prescription glasses—have challenged my statements that peep type receiver sight or single-sighting plane scope will give better accuracy than any combination of open sights.

They declare—in some cases with strong hint of self-satisfaction of accomplishment—that they are expert shots with open sights, and don't need a rear peep sight or a scope at all! They feel that, in all fairness, I should call attention to some good open sight combinations, like those they use.

The last I can do—and will, for good open sight combinations undeniably have usefulness, but I cannot go along with the first part of their thinking. I simply say, "Speak up again when advancing years have robbed your present young eyes of their muscle elasticity and fast focusing accommodation."

I, too, once held pretty much the same views. As a youngster, I shot so well with open sights that I pointedly questioned the logic of changing to peep rear type, as advocated by a well-informed and understanding shooting coach. Trial quickly changed my thinking, and in time I learned firsthand that the right combination of rear peep sight and front sight can often take top honors in any sight competition. Some of the tightest 100 and 200 yard groups I subsequently fired in national and international competition were with metallics.

Rest assured, those who shoot well with the average combination of *open* sights do so *despite* optical handicaps, not because of any superior quality of the open sights used.

As any opthalmologist can tell you, it is optically impossible for the human eye to sharply focus on three differently spaced objects at one time—like rear sight, front sight and target. The best focusing job the aiming eye can do (and even then it will be an optically imperfect job) is to quickly shift from rear sight, to front sight and target.

Young eyes, unless affected by disease, usually have remarkable and rapid flexibility or power of accommodation. They can quickly change focus from near to far, or vice versa, in a split-second and with reasonably good definition with every fast focus change.

But as the years pass eye muscles usually lose their elasticity or accommodation, and presbyopia or "old man's vision" sets in. The condition means that eye muscles are stiffening and that eye lens is flattening.

As the conditions worsen, newspaper and magazine print gradually must be positioned farther from eyes in order to read the small type clearly and comfortably. Presbyopia is probably present if you cannot read small print held about 9 inches from your eyes, test fashion, and have to move the print farther away from the eyes in order to make the print take sharp focus.

Shooters afflicted with presbyopia, uncorrected by prescription glasses, have an especially hard time focusing most open sight combinations, since rear sight, front sight and target are all in different focal planes. A change to rear peep sight or scope is needed. The change should not be delayed.

A few shooters, blessed with good eyesight and fast reflexes at early age, are lucky enough to retain those endowments throughout most of their lives.

For them, shooting—be it with hunting rifle, shotgun or handgun—is more or less instinctive, with almost instantly achieved sight alignment and correctly controlled trigger release. Their concern usually is not one of consciously experiencing clearly defined sight picture, but more in the nature of concentration on target and instant application of almost instinctive reflexes, developed from practice.

For this relatively small group, and for those who insist on sticking to open sight combination, regardless of optical advantages of a good rear peep sight

(*Continued on next page*)

(Continued from preceding page)

or scope, open sights may understandably be firm choice.

I won't argue their choice, but merely try to give them a few technical points to ponder.

For sure results, alignment of open sights must be perfect, horizontally and vertically. A user of open sights will never get the uniformity of repeated correct sight alignment that is possible with peep sight or scope, especially when firing under different light conditions.

Adjustment of open rear sight, at best, will be crude. Usually, needed windage adjustment of open rear sight can be obtained only by driving the sight sidewise in its dovetailed slot. Elevation changes, generally made by sliding a notched elevator bar under tension of the sight's leaf spring, are usually restricted to radical changes, like 4 to 6 inches change per bar step, per 100 yards of range. Contrast these crude sight adjustments with the precise elevation and windage changes that can be made in a good peep or scope sight.

A shooter whose hunting rifle groups shots are within a 6-inch circle at 100 yards, with factory open sights, is not obtaining maximum accuracy potential. A micrometer-click peep sight and proper style front sight will tighten group size markedly, and a scope sight will reduce overall spread even more.

Most of those who are still loyal to open sight combinations use one of two types.

The first is the round-bottomed U style of open rear sight, commonly found on .22 caliber rifles. It is almost always used in combination with a bead style front sight. The half circle sight picture it gives is really half the circular sight picture that a full aperture rear peep sight gives, but one lacking the optical advantages of full circle sight picture and its eye-attacting center.

An improved U style of open rear sight is the square ⊔ notch, used in conjunction with a blade front sight of proper width. It is probably the most accurate of open sight combinations.

In use, the top of the blade front sight is levelled with the top of the rear sight's ⊔ notch, with the blade so centered in the square notch that equal light is seen on each side of the centered blade, viewed through the rear sight.

The square ⊔ notch style open rear sight was successfully used on the Springfield Model 1903 bolt-action military rifle.

The second type of open rear sight most frequently seen is V notch style. Invariably, the V notch is deep, has curving ears and blots out much of the rifleman's field of view. Typical is one of Rocky Mountain buckhorn style. It is just about the poorest type of open rear sight that can be put on a hunting rifle. The big, curving ears jut up on either side of the sight's center and block out good view of target. When shooting at running game, or when firing in poor light, the shooter will usually over-shoot when he follows his natural tendency to raise his aiming eye in order to better see his front sight and target.

For those shooters who prefer an open combination of sights, a wide, shallow V open rear sight, used with a large, easily centered bead front sight will prove efficient on close and fast moving big game targets.

The semi-buckhorn style is not much better.

For the deer hunter who still prefers an open sight combination, a rear sight with very shallow V notch and a large, easily seen bead front sight is his best bet.

English gunmakers have long used such sight combinations on big bore double rifles intended for use on fast-moving, dangerous game close to gun.

When using a wide, shallow V open rear sight you can actually see your game coming across your field of vision, from right or left. There are no sight "ears" to blot out a considerable portion of target, as with most styles of open rear sights.

Usually, this style open rear sight incorporates a white bar or silver inlay at exact center, to cause the aiming eye to take precise central alignment in the shallow V and instantly align the front sight (invariably a bead) in its proper, central position.

Except for fast shooting at large targets very close to rifle, I'll take a good peep or scope every time. You will, too, when your eyes are no longer young.

EXPERIMENTAL or thoughtless snapping of cocked, but otherwise unloaded .22 rimfire caliber and shotgun actions without some sort of cushioning snap-cap in the chamber can bur chamber edges of rimfire rifles and handguns, and contribute to annoying firing pin breakage in many shotgun models.

With some of the Remingtons, and certain other makes of rifles and shotguns that are mechanically designed not to fire unless the action is fully closed and locked, the closing of the action automatically readies the weapon for hammer blow on firing pin when trigger is next manually activated.

This makes it difficult to end up with anything except a fired cartridge or shotshell case in chamber and still leave the action uncocked unless you deliberately (and undesirably) snap the trigger after making sure the gun is empty, by working and closing the action one more time. Such snapping on empty chamber can result in firing pin breakage, eventually if not right away.

An alternative is to leave a fired cartridge or shell case in the chamber, instead of ejecting the last fired case. Unfortunately, certain cases, especially some of the plastic shotshells, tend to corrode a chamber if a fired case is left in the gun.

The answer, in many instances, where type of breech locking and trigger cocking action permits, is to use special cushioning snap-caps.

Pachmayr Gun Works, Los Angeles, California 90015; Richland Arms Company, Blissfield, Michigan 49228; Stoeger Arms Corp., South Hackensack, New Jersey 07606, or Simmons Gun Specialties, Olathe, Kansas 66061, can supply them. Shotgun snap-caps are easier to obtain than one made for specific rifle calibers.

If you cannot find a commercially made set of snap-caps of needed caliber or gauge, you can make them by removing the primer from *fired* cases and then filling the primer hole of each deprimed, empty case with a rubber compound known as "G. E. Silicone Rubber." "Pyroil Flex-O-Fix" will also do the job—just give it plenty of time to solidify into resilient rubber. I have also made snap-caps by carefully cutting and shaping rubber eraser tips cut from unused pencils, and cementing the small plugs in primer pockets.

A film of G-66 Nitro Solvent wiped on the outside of improvised snap-caps will prevent a brass case from corroding the chamber, or a plastic shotshell case from rusting that critical area, I have found.

Usually, a firing pin will break at an inopportune time, with gunsmithing assistance not immediately available. Taking every possible precaution against induced firing pin breakage is exercised good sense. Snap-caps will help, in many instances. ●

Habitat Improvement Facts

By JOHN MARSMAN, Savage Arms

IT'S BEEN PRETTY well established in the minds of most sportsmen, at least those who have kept pace with modern wildlife management techniques, that the quality and density of any wildlife population depends chiefly upon proper habitat.

This means ample food and water supplies and ample escape cover. It boils down to the basic principle of successful farming. An acre of land will support a given amount of corn, for example. There's a saturation point. If it is exceeded, the crop suffers. And the land must be replenished in nutritional content if it is to continue successful production.

The same is true with wildlife and the land on which it lives. A given acre may be large enough to hold 1,000 rabbits. The number that survive will depend upon the amount of food and protective cover available.

Sportsmen have come to accept this fundamental equation of supply and demand as a necessary ingredient in the fish and wildlife management formula, but few have bothered to put it into practice.

Too many sportsmen's groups stubbornly refuse to modify short-range programs of limited value—stocking fish and game for immediate harvest. Few undertake habitat improvement or development projects. This is unfortunate, because many sportsmen's groups own large tracts of land.

By providing the habitat wildlife need for survival the sportsman provides himself with a long-term lease on better hunting prospects. If such a project is not feasible on the land owned by his club, he can sell the idea to farmers and others who own suitable hunting land.

Many farmers have taken their land out of production. It remains open but barren of wildlife, except during hunting seasons when it is stocked. What the gunner doesn't harvest either perishes or moves to a new location where food and protective cover are adequate.

An excellent example of the success of habitat improvement can be found in the accomplishments of Ducks Unlimited. Success on a smaller scale can be found in the wildlife management areas operated by state fish and game agencies.

Many such projects, if undertaken by groups or individuals, may be eligible for federal loans. The Department of Agriculture has assisted 629 communities and 780 farmers in developing outdoor recreation projects on their lands, including shooting and hunting facilities, since the program was started five years ago.

Expert advice on what and how to plant food patches, trees, shrubs and protective cover is available from state fish and game agencies, the Soil Conservation Service, state colleges, the Wildlife Management Institute, the Department of Agriculture, the U.S. Fish and Wildlife Service, and others.

By switching emphasis from put-and-take stocking to habitat improvement, sportsmen may find they won't have to continue costly stocking programs. Good habitat development makes it possible for higher breeding populations to survive, and that means a greater surplus at harvest time. ●

CONSERVATION SCENE

Pioneer Conservationist

CARL D. SHOEMAKER, noted pioneer conservationist and longtime Washington observer, died April 2 in a Winter Park, Florida hospital at the age of 86.

A 45-year veteran of the conservation movement, Shoemaker was an honorary president of the National Wildlife Federation. He was an aggressive leader in enactment of vital national conservation legislation, including the original Fish and Wildlife Coordination Act of 1934 requiring consideration of fish and wildlife in Federal water project construction.

A former Oregon Game Commissioner, he served as secretary of the Senate Select Committee on Conservation and Wildlife Resources from 1932 to 1947. Shoemaker joined the noted wildlife artist J. N. "Ding" Darling and others in organizing the National Wildlife Federation in 1936. During much of this time he also served as Conservation Director of the National Wildlife Federation and helped guide it through its formative years.

He was a major force in the enactment of the Migratory Bird Hunting Stamp Act, which has raised more than $100 million for Federal wildlife refuges. He made significant contributions to the enactment of the 1937 Pittman-Robertson and 1950 Dingell-Johnson Acts which have poured hundreds of millions of dollars into state wildlife programs through a Federal excise tax on the sale of sporting arms and ammunition and fishing tackle.

Shoemaker was a charter member of the Federal Water Pollution Control Advisory Board; a member of the Interior Department Committee on Fish and Wildlife; and for many years served as general counsel of the International Association of Game, Fish and Conservation Commissioners.

Program Budget Crossfire

CONSERVATION activities of the Federal Government, perennially hardpressed for adequate funds, are slated for further difficulties under the Nixon Administration's recommended revision of the budget request for the fiscal year beginning July 1, according to the Wildlife Management Institute. Further complicating the outlook is the likelihood that the Congress will see more reductions in federal expenditures in exchange for granting the President the income tax surcharge extension.

Under the budget revision, $30 million would be cut from the amount requested for the federal agencies' share of the Land and Water Conservation Fund, leaving only $124 million. This is the money used by the park, forest, and wildlife agencies to acquire lands needed for outdoor recreation purposes. In amending the law last year, Congress authorized an annual appropriation of $200 million for this purpose. The LBJ budget request was for only $154 million.

If Congress accepts this further budget reduction, it will mean a slowing of the national outdoor recreation program, which has suffered a succession of lean years. The difficulties arise from two principal reasons, one being the great number of projects authorized, and the second, the upward spiral of land costs. Many expensive park and recreation projects were approved during the Kennedy-Johnson years, but those Administrations and the Congress did not do much about supplying the money to buy the land. This has created a large backlog of projects, which yearly become more expensive to acquire.

In view of this, there is some apprehension that the Congress will be reluctant to authorize any new projects this year. Projects like the Voyageurs National Park, Sleeping Bear Dunes and Apostle Islands Lakeshores, Buffalo National River, and others may be put back on the shelf.

Funds for the accelerated wetlands purchase program would be cut back to $5 million under the budget revision, thereby reducing the activity under its $7.5 million operating level for the first time in years. This reduction, if permitted to stand, would seriously curtail the important wildlife conservation program.

Funds For Hunter Programs

WILDLIFE and hunter-safety programs will receive an extra $5 million a year if Congress passes bills introduced in the House and Senate.

The bills would divert the 10 per cent tax on handguns from general revenue to the U. S. Department of Interior. Half of the funds would be prorated to the states, on a 50-50 matching basis, for hunter-safety programs. The other half would go to the federal aid in wildlife restoration program established in 1937, reports the National Shooting Sports Foundation.

Congressman John Dingell and Joseph Karth have introduced H. R. 1048 to put the handgun tax money to work for sportsmen. It has been referred to the House

Committee on Merchant Marine and Fisheries. Senator Lee Metcalf has introduced an identical bill, S. 670, which was referred to the Senate Committee on Commerce.

The handgun tax collections in 1968 were more than $5.5 million, according to the National Shooting Sports Foundation.

Through an 11 per cent tax on sporting rifles, shotguns and factory ammunition, more than $350 million have been collected for wildlife restoration. The money is prorated back to the states on a 75-25 matching basis.

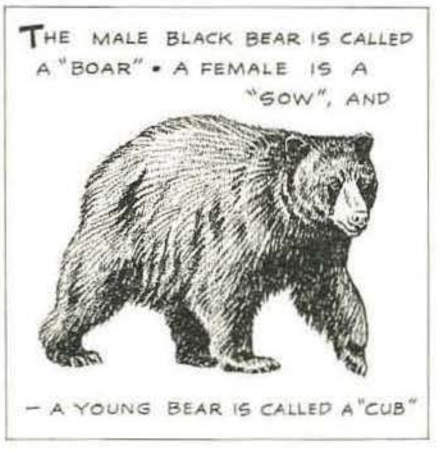
Rep. Dingell had a similar bill in the 90th Congress to put handgun tax money into sportsmen's programs, but it did not move. One reason, according to Rep. Dingell, is that sportsmen did not create enough interest with their elected officials.

There is little opposition to the bills this year, Rep. Dingell states, but if "sportsmen don't show more interest the bills will not pass."

The Michigan Congressman pointed out that there are 15,000 bills in Congress. Bills which are called to the attention of Congressmen by the voters are the ones which have the best chance for action, Rep. Dingell says.

If the bills become law, wildlife restoration funds would receive about $2.5 million a year in addition to the normal Pittman-Robertson wildlife restoration funds.

The other $2.5 million would be prorated to the states for use in hunter-safety programs. Also, the states could use the new money for the "construction, operation and maintenance of public outdoor target ranges."


THE MALE BLACK BEAR IS CALLED A "BOAR" • A FEMALE IS A "SOW", AND
– A YOUNG BEAR IS CALLED A "CUB"

"The state fish and game departments urgently need extra funds to expand their safety programs," Rep. Dingell says.

Government's Big Promises

THE FEDERAL Government's big promises to help finance municipal waste treatment facilities did a lot to take the heat off the Federal establishment, but little to get the "crud" out of the Nation's waters, according to Tom Kimball, head of the National Wildlife Federation.

Under the Water Quality Act of 1965 and the Clean Water Restoration Act of 1966, the Federal Government goaded states to establish sorely needed water quality standards and promised massive financial assistance to help construct the necessary municipal sewage treatment plants.

When it came time to put the taxpayer's money where the Federal establishment's mouth was, however, actual appropriations fell far short of promised amounts. The states were left holding a bag full of pollution clean-up laws and no money to put them into effect.

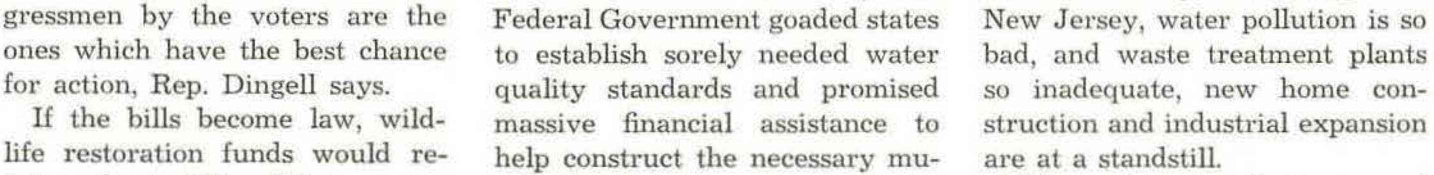
In fiscal year 1968, for instance, Congress appropriated only $203 million from the $450 million authorization. In fiscal 1969, $214 million was appropriated from a $700 million authorization. The Nixon Administration followed up with a request for a mere $214 million from the $1 billion authorized for fiscal year 1970.

The Administration's request for fiscal 1970 is less than the cost of one make-work dam and reservoir development; or less than we spend annually for research and development of chemical and bacteriological warfare, Kimball said. Even if the Congress does appropriate the full $214 million, that's not enough to even make a dent in the rapidly growing problem of inadequate sewage treatment facilities.

According to the Public Health Service, fully one-fourth of the people in the United States are drinking water that doesn't meet Health Service standards because of increasingly polluted water supplies. Health officials say this is literally ". . . flirting with disaster. . ."

In scattered localities throughout the country, from Oregon to New Jersey, water pollution is so bad, and waste treatment plants so inadequate, new home construction and industrial expansion are at a standstill.

"Examples of pollution-caused economic depression, health hazards and wildlife destruction are scattered across the United States like poison confetti," Kimball said. "With the Federal Government's current lip service to helping finance municipal waste treatment plants, it's become a question of how long we can escape inundation by our own filth."


FIGHT THE ESTABLISHMENT
REVOLT!
TRIP WITH L.S.D.
STOP WATER POLLUTION
DOWN WITH COPS!
BURN! BURN! B'RN!
FREE LOVE NOW!
MAKE DOPE LEGAL!

From NATIONAL WILDLIFE Magazine, February-March 1969

Fish Management Notes

Reporting on the Commission-supervised operation of a 1600-yard haul seine in the Lake George area of the St. Johns River, Fishery Biologist Harold Moody of Winter Garden says a total of 14 net hauls made between April 1 and April 26, 1969 produced 64,986 pounds of fishes, 82% by weight being non-gamefish species.

All freshwater gamefishes—the remaining 18% of the catch—some 12,000 pounds—were released alive immediately after capture.

According to Moody's report, "The percentage by weight of largemouth bass in the total catch rose to 4.8%. These bass were nearly all large ones (average weight 6 pounds) and in spawning condition.

"The average catch per haul of black crappie decreased by almost one-third of the average pounds taken per haul of this species last month. This is a usual seasonal phenomenon associated with spawning behavior in the springtime. The average catches per haul of bluegill and shellcracker showed a similar decline. . . .

"The average catches per haul of gizzard shad in March and April were 5,730 and 3,260 pounds, respectively. The decline in the gizzard shad catch is believed to represent an actual decline of its population since last month. It is known that a natural mortality occurs annually among gizzard shad immediately after they spawn. This species, however, still represented 70% by weight of the total pounds of fishes taken during the month of April. . . ." (A total of 45,645 pounds of gizzard shad.)

The April catch also included these species and weights of non-gamefishes: Channel catfish—1,287 pounds, white catfish—1,401, brown bullhead—239, garfishes—2,090, bowfin (mudfish)—43, mullet—152, red drum—112, blueback herring—30, stingray—2,260, and turtles—178 pounds.

The 14 seine hauls, averaging 4,641 pounds of fishes per haul, were made at the following locations: Salt Cove—5 hauls, Muddy Cove—3, Sander's Cove—2, and one each in Little Lake George, at the mouth of Juniper Run, in Mud Creek Cove, and south of Drayton Island.

Despite a strict, no-nonsense piranha registration law in Florida—a permit is required to own one—control of these and other imported, potentially dangerous fishes presents a serious problem in the Sunshine State.

A Winter Haven man was charged in April with possession of, and offering for sale, four unregistered piranhas. They were promptly seized by officers of the Game and Fresh Water Fish Commission, in accordance with the law. The defendant was convicted in Polk County Court at Bartow and let off with a warning, according to Commission records.

Striped bass stocked by the Commission in June 1968 in Lake Hollingsworth at Lakeland and Lake Talquin near Tallahassee are showing some signs of migratory tendencies. Four specimens have been caught below Lake Talquin Dam in the Ochlockonee River and unknown numbers have moved from Lake Hollingsworth through connecting waters to Lake Bentley, according to F. G. Banks, assistant chief of Fisheries Division, Tallahasee.

The introduced stripers, now in their second year, are doing nicely. Sampling in lakes Hollingsworth and Bentley in April produced 11 and 18 stripers, respectively, according to biologist Forrest Ware of Lakeland, supervising the Commission's Lake Management and Research Project, a D-J federal aid study.

At the age of one year their average total length was 9.5 inches; the range from 7 to 11 inches. (A 13-inch fish was collected from Hollingsworth in May, however.) Ware reports, after a literature search, " . . . this is the top growth rate in the country" for striped bass.

Regional fishery biologist William Wegener of Ocala reports Lake Underhill's introduced stripers averaged 9.97 inches total length at the end of their first year. The range there was 9⅛ to 11⅜ inches. Lake Underhill, at Orlando, received striper fingerlings in the landlocked striped bass program at the same time as lakes Talquin and Hollingsworth.

Anglers scored well on native-grown striped bass below Rodman Dam in the Oklawaha River in April, says Wegener, who had reports that "on the average two to three stripers a day were being caught in the area" in mid-month.

Three nights of sampling there by biologists Wegener and Robert Schneider, in attempts to collect live stripers for brood stock for the Welaka Fish Hatchery on the St. Johns River, produced two specimens weighing 15 and 22 pounds. Unfortunately, neither survived.

Electric shocker sampling of the fish population in the Rodman Pool on the Cross Florida Barge Canal revealed some largemouth bass reproduction and a bream population that was "literally ready to explode," said biologist Wegener in an April report. "Redbreast seem to be by far the most abundant. Fishing success for redbreast, spotted sunfish (stumpknocker), and bluegill is quite high for those anglers utilizing the area," he said. ●

For that BIG ONE that didn't get away

ELIGIBILITY REQUIREMENTS
SPECIES

LARGEMOUTH BASS	8 pounds or larger
CHAIN PICKEREL	4 pounds or larger
BLUEGILL (BREAM)	1½ pounds or larger
SHELLCRACKER	2 pounds or larger
BLACK CRAPPIE	2 pounds or larger
RED BREAST	1 pound or larger

All fish must be taken from the fresh waters of the state of Florida, as defined by the Game and Fresh Water Fish Commission. Fish must be caught on conventional fishing tackle, with artificial or live bait, in the presence of at least one witness.

The catch must be weighed and recorded at a fishing camp or tackle store within the state by the owner, manager, or an authorized agent of the respective establishment.

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is available without charge, to any and all subscribers to Florida Wildlife Magazine, and their immediate families, who catch any of the fresh-water game fish of the prescribed species and size requirements. Citation, showing recorded date of the catch, will be mailed to the applicant upon receipt of the following application form that has been properly filled out and signed.

Only fishing citation applications received within 90 days from date of catch will be honored.

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The Editor, FLORIDA WILDLIFE Date__________
Game & Fresh Water Fish Commission, Tallahassee, Fla.

Please send me the Florida Wildlife Fishing Citation with the inscribed data listed below:

Name (please print)__________

Address __________

City__________ State__________ Zip No.__________

Species__________ Weight__________ Length__________

Type of Tackle__________

Bait or Lure Used__________

Where Caught__________ in__________ County

Date Caught__________ Catch Witnessed By__________

Registered, Weighed By__________ At__________

Signature of Applicant__________

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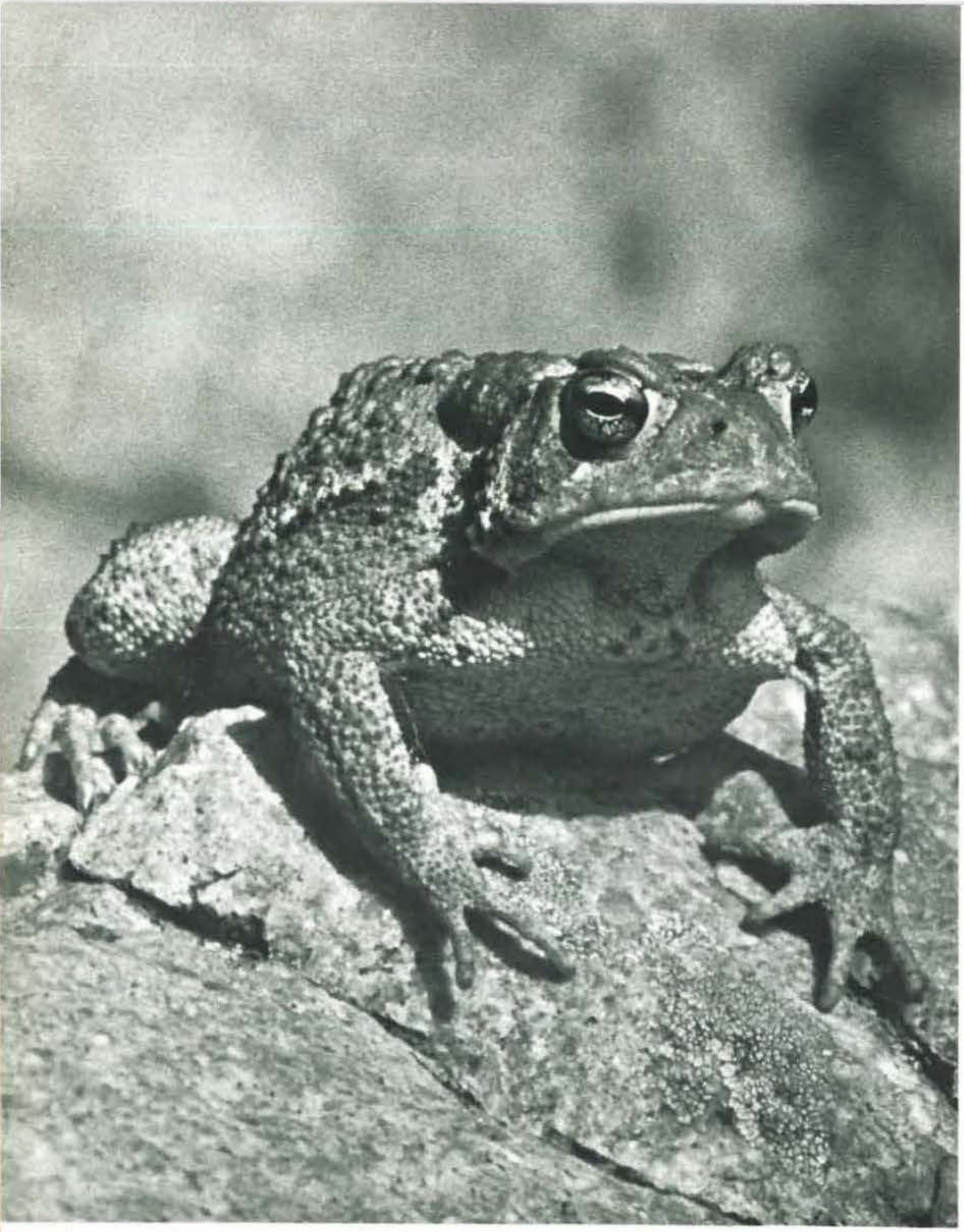

American Toad

Photo By Leonard Lee Rue III

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